



October 11, 2013

Brad Davis  
Zia Engineering & Environmental  
755 S Telshor Blvd Ste F-201  
Las Cruces, NM 88011  
TEL: (575) 993-6824  
FAX (575) 532-1587

Order No.: 1309209

RE: HELSTF Construction Landfill

Dear Brad Davis:

DHL Analytical, Inc. received 3 sample(s) on 9/24/2013 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of DoD QSM Ver 4.2 and NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. This report shall not be reproduced except in full without the written approval of DHL Analytical, Inc. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in red ink that reads "John DuPont".

John DuPont  
General Manager

This report was performed under the accreditation of the State of Texas & DoD Laboratory  
Certification Number: T104704211-13-11 & DoD ELAP #ADE-1416 v2



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**BB  
engineering  
6 environmental**  
consultants, Inc.

755 S. Telstar Blvd., Ste. F-201  
Las Cruces, NM 88011  
575-532-1526 u  
575-532-1587 f

#1309209

**CHAIN OF CUSTODY RECORD**

PAGE 1 OF 1

PROJECT NO.	PROJECT NAME	SAMPLE'S SIGNATURE	NO. OF CONTAINERS	ANALYSIS REQUESTED							REMARKS		
				TOC	VOCs	SVOCs	T <sub>F</sub> + GRO+ DRO	Total metals	Dissolved metals	Sulfate		Chloride	Alkalinity pH
9-23-13	1025	HLSF-3839-RB-001-0913-TB	Water	2	X								trip Blank
9-23-13	1025	HLSF-3839-RB-001-0913	Water	16	X X X X X X X X X X X X X X								Equipment Blank
9-23-13	1140	HLSF-3839-HMW-008-0913	Water	16	X X X X X X X X X X X X X X								
PROJECT INFORMATION		SAMPLES RECEIVED		1. RELINQUISHED BY: (SIG NATURE)		2. RELINQUISHED BY: (SIG NATURE)		3. RECEIVED BY LAB: (SIG NATURE)					
PROJECT MANAGER		TOTAL NO. OF CONTAINERS		(PRINTED NAME)	Bradley T. Davis 9-23-13	(PRINTED NAME)	Fed Ex	(PRINTED NAME)					
ShIPPING ID NO.		CHAIN OF CUSTODY SEALS	16	RECEIVED BY: (SIG NATURE)	Bradley T. Davis	RECEIVED BY: (SIG NATURE)	John	(COMPANY)					
		GOOD CONDITION/CHILLED	30	(TIME/ DATE)	2/20/13	(TIME/ DATE)	2/20/13 930	(TIME/ DATE)					
WAC		CONFORMS TO RECORD		SPECIAL INSTRUCTIONS/ COMMENTS: Metals = As, Ba, Cd, Cr, Pb, Se, Ag, Na, Cu, K, Mg, + Hg.									

PLEASE USE BALL POINT PEN

DISTRIBUTION: WHITE - PROJECT FILES; YELLOW - LAB; PINK - FIELD COPY

**FedEx**® NEW Package  
Express US Airbill

FedEx  
Tracking  
Number

8037 3859 7000

1 From

Date 9-23-13

Sender's Name Brad Davis

Phone 575 644-9192

Company Zia Engineering

Address 755 S Telshor Blvd. F-201

City Las Cruces

State NM ZIP 88011

2 Your Internal Billing Reference

FWSE 09015-038

3 To

Recipient's Name J. Barker

Phone 512 388-8222

Company DHL Analytical

Address 2300 Double Creek Drive

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Dept/Floor/Suite/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City Round Rock

State TX ZIP 78664



8037 3859 7000

CUSTODY SEAL

9-23-2013

SIGNATURE

Lionel Esguerra

4 Expenses

NOTE: Service order has been placed.

Next Business Day

FedEx First Overnight  
Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

FedEx Priority Overnight  
Next business morning.\* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

FedEx Standard Overnight  
Next business afternoon.\* Saturday Delivery NOT available.

FedEx 2Day  
Second business morning.\* Saturday Delivery NOT available.

FedEx 2Day  
Second business afternoon.\* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

FedEx Express Saver  
Third business day.\* Saturday Delivery NOT available.

5 Packaging \*Declared value limit \$500.

FedEx Envelope\*

FedEx Pak\*

FedEx Box

FedEx Tube

6 Special Handling and Delivery Options

SATURDAY Delivery  
NOT available for FedEx First Overnight, FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

No Signature Required  
Package may be left without obtaining a signature for delivery.

Direct Signature  
Someone at recipient's address may sign for delivery. Fee applies.

Indirect Signature  
If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. Fee applies.

Does this shipment contain dangerous goods?

One box must be checked.

No  Yes  
As per attached Shipper's Declaration.  Yes Shipper's Declaration not required.

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

Dry Ice  
Dry Ice, 9.1N 1845 kg  
 Cargo Aircraft Only

7 Payment Bill to:

Sender  
Acct. No. in Section  
I will be billed.

Recipient

Third Party

Credit Card

Enter FedEx Acct. No. or Credit Card No. below.  
Obtain recip. Acct. No.

Total Packages

Total Weight

lbs.



Credit Card Auth.

Your liability is limited to US\$100 unless you declare a higher value. See the current FedEx Service Guide for details.

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DHL Analytical, Inc.

Sample Receipt Checklist

Client Name Zia Engineering & Environmental

Date Received: 9/24/2013

Work Order Number 1309209

Received by JB

Checklist completed by:

9/24/2013

Signature

Date

Reviewed by

9/24/2013

Date

Carrier name FedEx 1day

Shipping container/cooler in good condition? Yes  No  Not Present

Custody seals intact on shipping container/cooler? Yes  No  Not Present

Custody seals intact on sample bottles? Yes  No  Not Present

Chain of custody present? Yes  No

Chain of custody signed when relinquished and received? Yes  No

Chain of custody agrees with sample labels? Yes  No

Samples in proper container/bottle? Yes  No

Sample containers intact? Yes  No

Sufficient sample volume for indicated test? Yes  No

All samples received within holding time? Yes  No

Container/Temp Blank temperature in compliance? Yes  No  3.0 °C

Water - VOA vials have zero headspace? Yes  No  No VOA vials submitted

Water - pH<2 acceptable upon receipt? Yes  No  NA  LOT # 7179

Adjusted? No Checked by J

Water - ph>9 (S) or ph>12 (CN) acceptable upon receipt? Yes  No  NA  LOT #

Adjusted? Checked by \_\_\_\_\_

Any No response must be detailed in the comments section below.

-----

Client contacted \_\_\_\_\_ Date contacted: \_\_\_\_\_ Person contacted \_\_\_\_\_

Contacted by: \_\_\_\_\_ Regarding: \_\_\_\_\_

Comments: \_\_\_\_\_

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# DHL Analytical, Inc.

## Laboratory Review Checklist: Reportable Data

Project Name: HELSTF Construction Landfill		Date: 10/11/2013				
Reviewer Name: Angie O'Donnell		Laboratory Work Order: 1309209				
Prep Batch Number(s): See Prep Dates Report		Run Batch: See Analytical Dates Report				
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>
R1	OI	<b>Chain-of-Custody (C-O-C)</b> 1) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt? 2) Were all departures from standard conditions described in an exception report?	X			R1-01
R2	OI	<b>Sample and Quality Control (QC) Identification</b> 1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers? 2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X	X		
R3	OI	<b>Test Reports</b> 1) Were all samples prepared and analyzed within holding times? 2) Other than those results < MQL, were all other raw values bracketed by calibration standards? 3) Were calculations checked by a peer or supervisor? 4) Were all analyte identifications checked by a peer or supervisor? 5) Were sample detection limits reported for all analytes not detected? 6) Were all results for soil and sediment samples reported on a dry weight basis? 7) Were % moisture (or solids) reported for all soil and sediment samples? 8) Were bulk soils/solids samples for volatile analysis extracted with methanol per EPA Method 5035? 9) If required for the project, TICs reported?	X			
R4	O	<b>Surrogate Recovery Data</b> 1) Were surrogates added prior to extraction? 2) Were surrogate percent recoveries in all samples within the laboratory QC limits?	X	X		
R5	OI	<b>Test Reports/Summary Forms for Blank Samples</b> 1) Were appropriate type(s) of blanks analyzed? 2) Were blanks analyzed at the appropriate frequency? 3) Where method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures? 4) Were blank concentrations < MQL?	X			R5-04
R6	OI	<b>Laboratory Control Samples (LCS):</b> 1) Were all COCs included in the LCS? 2) Was each LCS taken through the entire analytical procedure, including prep and cleanup steps? 3) Were LCSs analyzed at the required frequency? 4) Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits? 5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs? 6) Was the LCSD RPD within QC limits (if applicable)?	X			R6-04
R7	OI	<b>Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Data</b> 1) Were the project/method specified analytes included in the MS and MSD? 2) Were MS/MSD analyzed at the appropriate frequency? 3) Were MS (and MSD, if applicable) %Rs within the laboratory QC limits? 4) Were MS/MSD RPDs within laboratory QC limits?	X			R7-02
R8	OI	<b>Analytical Duplicate Data</b> 1) Were appropriate analytical duplicates analyzed for each matrix? 2) Were analytical duplicates analyzed at the appropriate frequency? 3) Were RPDs or relative standard deviations within the laboratory QC limits?	X	X		R7-03
R9	OI	<b>Method Quantitation Limits (MQLs):</b> 1) Are the MQLs for each method analyte included in the laboratory data package? 2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard? 3) Are unadjusted MQLs and DCSs included in the laboratory data package?	X			
R10	OI	<b>Other Problems/Anomalies</b> 1) Are all known problems/anomalies/special conditions noted in this LRC and ER? 2) Was applicable and available technology used to lower the SDL to minimize the matrix interference affects on the sample results? 3) Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X			R10-01

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

3 NA = Not applicable.

4 NR = Not Reviewed.

5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

# DHL Analytical, Inc.

## Laboratory Review Checklist (continued): Supporting Data

Project Name: HELSTF Construction Landfill		Date: 10/11/2013				
Reviewer Name: Angie O'Donnell		Laboratory Work Order: 1309209				
# <sup>1</sup>	A <sup>2</sup>	Description	Yes	No	NA <sup>3</sup>	NR <sup>4</sup>
S1	OI	<b>Initial Calibration (ICAL)</b>				ER# <sup>5</sup>
		1) Were response factors and/or relative response factors for each analyte within QC limits?	X			
		2) Were percent RSDs or correlation coefficient criteria met?	X			
		3) Was the number of standards recommended in the method used for all analytes?	X			
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	X			
		5) Are ICAL data available for all instruments used?	X			
		6) Has the initial calibration curve been verified using an appropriate second source standard?	X			S1-06
S2	OI	<b>Initial and Continuing calibration Verification (ICCV and CCV) and Continuing Calibration blank (CCB):</b>				
		1) Was the CCV analyzed at the method-required frequency?	X			
		2) Were percent differences for each analyte within the method-required QC limits?	X			
		3) Was the ICAL curve verified for each analyte?	X			
		4) Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X			
S3	O	<b>Mass Spectral Tuning:</b>				
		1) Was the appropriate compound for the method used for tuning?	X			
		2) Were ion abundance data within the method-required QC limits?	X			
S4	O	<b>Internal Standards (IS):</b>				
		1) Were IS area counts and retention times within the method-required QC limits?	X			
S5	OI	<b>Raw Data (NELAC Section 5.5.10)</b>				
		1) Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X			
		2) Were data associated with manual integrations flagged on the raw data?		X		S5-02
S6	O	<b>Dual Column Confirmation</b>				
		1) Did dual column confirmation results meet the method-required QC?			X	
S7	O	<b>Tentatively Identified Compounds (TICs):</b>				
		1) If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X	
S8	I	<b>Interference Check Sample (ICS) Results:</b>				
		1) Were percent recoveries within method QC limits?	X			
S9	I	<b>Serial Dilutions, Post Digestion Spikes, and Method of Standard Additions</b>				
		1) Were percent differences, recoveries, and the linearity within the QC limits specified in the method?		X		S9-01
S10	OI	<b>Method Detection Limit (MDL) Studies</b>				
		1) Was a MDL study performed for each reported analyte?	X			
		2) Is the MDL either adjusted or supported by the analysis of DCSs?	X			
S11	OI	<b>Proficiency Test Reports:</b>				
		1) Was the lab's performance acceptable on the applicable proficiency tests or evaluation studies?	X			
S12	OI	<b>Standards Documentation</b>				
		1) Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X			
S13	OI	<b>Compound/Analyte Identification Procedures</b>				
		1) Are the procedures for compound/analyte identification documented?	X			
S14	OI	<b>Demonstration of Analyst Competency (DOC)</b>				
		1) Was DOC conducted consistent with NELAC Chapter 5 – Appendix C?	X			
		2) Is documentation of the analyst's competency up-to-date and on file?	X			
S15	OI	<b>Verification/Validation Documentation for Methods (NELAC Chapter 5)</b>				
		1) Are all the methods used to generate the data documented, verified, and validated, where applicable?	X			
S16	OI	<b>Laboratory Standard Operating Procedures (SOPs):</b>				
		1) Are laboratory SOPs current and on file for each method performed?	X			

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

3 NA = Not applicable.

4 NR = Not Reviewed.

5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

# Laboratory Data Package Signature Page – RG-366/TRRP-13

This data package consists of:

This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
  - a) Items consistent with NELAC Chapter 5,
  - b) dilution factors,
  - c) preparation methods,
  - d) cleanup methods, and
  - e) if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
  - a) Calculated recovery (%R), and
  - b) The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  - a) LCS spiking amounts,
  - b) Calculated %R for each analyte, and
  - c) The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  - a) Samples associated with the MS/MSD clearly identified,
  - b) MS/MSD spiking amounts,
  - c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  - d) Calculated %Rs and relative percent differences (RPDs), and
  - e) The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  - a) The amount of analyte measured in the duplicate,
  - b) The calculated RPD, and
  - c) The laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
- R10 Other problems or anomalies.

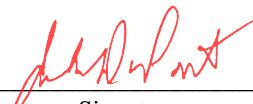
The Exception Report for every “No” or “Not Reviewed (NR)” item in Laboratory Review checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

**Release Statement:** I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge that all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information or data affecting the quality of the data has been knowingly withheld.

This laboratory was last inspected by TCEQ on May 17-20, 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

John DuPont – General Manager

Scott Schroeder – Technical Director



Signature

10/11/13

Date

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Lab Order:** 1309209

**CASE NARRATIVE**

This case narrative describes abnormalities and deviations that may affect the results and summarizes all known issues that need to be highlighted for the data user to assess the results. This case narrative and the report contents are compliant with DoD QSM Ver 4.2 and NELAC.

Samples were analyzed using the methods outlined in the following references:

Method SW6020A - Metals Analysis (Dissolved and Trace)  
Method SW7470A - Mercury Analysis (Dissolved and Trace)  
Method M8015V - GRO Analysis  
Method M8015D - DRO Analysis  
Method SW8260C - Volatile Organics  
Method SW8270D - Semivolatiles Organics (Some compounds are not NELAC Certified)  
Method E300 - Anions Analysis  
Method M2320 B - Alkalinity Analysis  
Method M4500-H+ B - pH of a Water  
Method M5310 C - Total Organic Carbon Analysis

Exception Report R1-01

The samples were received on and log-in performed on 9/24/2013. A total of 3 samples were received and analyzed. The samples arrived in good condition and were properly packaged.

Exception Report R5-04

For Semivolatiles Analysis, Bis(2-ethylhexyl)phthalate was detected below the reporting limit for Method Blank-59628. This compound is nondetect in the associated samples. No further corrective action was taken.

Exception Report R6-04

For Semivolatiles Analysis, there was no recovery of Dimethylphenethylamine for the Laboratory Control Spike (LCS-59628). This is flagged accordingly in the QC Summary Report. This compound was within method control limits in the associated ICV. No further corrective action was taken.

Exception Report R7-02

For Volatiles Analysis, an MS/MSD was not performed due to insufficient sample volume, an LCS/LCSD was analyzed instead.

---

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Lab Order:** 1309209

## CASE NARRATIVE

### Exception Report R7-03

For Anions Analysis, the recoveries of Chloride and Sulfate for the Matrix Spike and Matrix Spike Duplicate (1309204-09 MS/MSD) were outside of the method control limits. These are flagged accordingly in the QC Summary report. These anions were within method control limits in the associated LCS. The reference sample selected for the matrix spike and matrix spike duplicate was from this project. No further corrective action was taken.

For Metals Analysis, for Dissolved Metals Batch 59692, the recoveries of a four analytes for the Matrix Spike and Matrix Spike Duplicate (1309204-09 MS/MSD) were outside of the method control limits. These are flagged accordingly in the QC Summary report. These analytes were within method control limits in the associated LCS. The reference sample selected for the matrix spike and matrix spike duplicate was from this project. No further corrective action was taken.

For Metals Analysis, for Trace Metals Batch 59647, the recoveries of several analytes for the Matrix Spike and Matrix Spike Duplicate (1309204-09 MS/MSD) were outside of the method control limits. These are flagged accordingly in the QC Summary report. These analytes were within method control limits in the associated LCS. The reference sample selected for the matrix spike and matrix spike duplicate was from this project. No further corrective action was taken.

For Semivolatiles Analysis, the recovery of Dimethylphenethylamine for the Matrix Spike and Matrix Spike Duplicate (1309204-09 MS/MSD) was outside of the method control limits. These are flagged accordingly in the QC Summary Report. This compound was within method control limits in the associated ICV. No further corrective action was taken.

### Exception Report R10-01

For Dissolved/Trace Metals Analysis, the results of Dissolved results of a couple of analytes for the Samples were slightly above the results of the Total results. The results were within acceptable analytical variation limits. No further corrective action was taken.

### Exception Report S1-06

For Semivolatiles Analysis, the recoveries of six compounds for the Second Source Calibration Verification are outside of the method control limits. These compounds were within method control limits in the daily calibration. No further corrective action was taken.

### Exception Report S5-02

For Semivolatiles Analysis, some samples and/or standards were manually integrated. Please refer to pages after the MQL Summary Report for the full list of samples, standards, and the compounds that were manually integrated.

---

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Lab Order:** 1309209

---

## CASE NARRATIVE

### Exception Report S9-01

For Dissolved and Trace Metals Analysis, batches 59692 and 59647, the RPDs of a few analytes for the Serial Dilution (1309204-09 SD) were above the method control limit. These are flagged accordingly in the QC Summary Report. These analytes are within method control limits in the associated Post Digestion Spike . No further corrective action was taken.

A summary of project communication follows:

DHL Analytical received the Project RFQ from the client on 12/29/09. Completed RFQ returned to client via email on 1/07/2010. Purchase Order/Terms and Conditions received and signed and approved by both parties on 01/25/2010.

Brad Davis of Zia requested a bottle kit via email from Jennifer Barker of DHL on 7/27/12.

DHL Bottle kit #3502 sent on 8/13/12 via Lonestar Overnight, to arrive by 8/15/12.

This sample delivery group arrived at DHL Analytical 9/24/13 Sample summary sent via email from Log-in to client on 9/24/13.

All hardcopies for the sample kit request, bill of lading for sample kit sent and login summary are kept in project folder or are filed in the project/Client folder as part of the Administrative records in the QA office.

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Lab Order:** 1309209

**Work Order Sample Summary**

<b>Lab Smp ID</b>	<b>Client Sample ID</b>	<b>Tag Number</b>	<b>Date Collected</b>	<b>Date Recved</b>
1309209-01	HLSF-3839-RB-001-0913-TB		09/23/13 10:25 AM	9/24/2013
1309209-02	HLSF-3839-RB-001-0913		09/23/13 10:25 AM	9/24/2013
1309209-03	HLSF-3839-HMW-008-0913		09/23/13 11:40 AM	9/24/2013

**Lab Order:** 1309209  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill

## PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1309209-01A	HLSF-3839-RB-001-0913-TB	09/23/13 10:25 AM	Trip Blank	SW5030C	Purge and Trap Water GC/MS	09/27/13 10:01 AM	59688
1309209-02A	HLSF-3839-RB-001-0913	09/23/13 10:25 AM	Equip Blank	SW5030C	Purge and Trap Water GC/MS	09/27/13 10:01 AM	59688
1309209-02B	HLSF-3839-RB-001-0913	09/23/13 10:25 AM	Equip Blank	SW5030C	Purge and Trap Water GC-Gas	10/03/13 09:55 AM	59763
1309209-02C	HLSF-3839-RB-001-0913	09/23/13 10:25 AM	Equip Blank	M5310C	TOC prep Aqueous	09/27/13 09:00 AM	59685
1309209-02D	HLSF-3839-RB-001-0913	09/23/13 10:25 AM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	09/26/13 08:32 AM	59647
	HLSF-3839-RB-001-0913	09/23/13 10:25 AM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	09/26/13 08:32 AM	59647
	HLSF-3839-RB-001-0913	09/23/13 10:25 AM	Equip Blank	SW7470A	Mercury Aq Prep, Total	09/30/13 10:01 AM	59702
1309209-02E	HLSF-3839-RB-001-0913	09/23/13 10:25 AM	Equip Blank	SW3005A	Aq Prep Metals: Dissolved	09/27/13 02:08 PM	59692
	HLSF-3839-RB-001-0913	09/23/13 10:25 AM	Equip Blank	SW3005A	Aq Prep Metals: Dissolved	09/27/13 02:08 PM	59692
	HLSF-3839-RB-001-0913	09/23/13 10:25 AM	Equip Blank	SW7470A	Mercury Aq Prep, Total	09/30/13 10:01 AM	59702
1309209-02F	HLSF-3839-RB-001-0913	09/23/13 10:25 AM	Equip Blank	M2320 B	Alkalinity Preparation	09/24/13 11:11 AM	59623
	HLSF-3839-RB-001-0913	09/23/13 10:25 AM	Equip Blank	E300	Anion Preparation	09/24/13 10:20 AM	59619
	HLSF-3839-RB-001-0913	09/23/13 10:25 AM	Equip Blank	M4500-H+ B	pH Preparation	09/24/13 10:20 AM	59622
1309209-02G	HLSF-3839-RB-001-0913	09/23/13 10:25 AM	Equip Blank	SW3510C	Aq Prep Sep Funnel: BNA	09/25/13 08:25 AM	59628
1309209-02H	HLSF-3839-RB-001-0913	09/23/13 10:25 AM	Equip Blank	SW3510C	Aq Prep Sep Funnel: DRO	09/24/13 12:50 PM	59624
1309209-03A	HLSF-3839-HMW-008-0913	09/23/13 11:40 AM	Aqueous	SW5030C	Purge and Trap Water GC/MS	09/27/13 10:01 AM	59688
1309209-03B	HLSF-3839-HMW-008-0913	09/23/13 11:40 AM	Aqueous	SW5030C	Purge and Trap Water GC-Gas	10/03/13 09:55 AM	59763
1309209-03C	HLSF-3839-HMW-008-0913	09/23/13 11:40 AM	Aqueous	M5310C	TOC prep Aqueous	09/27/13 09:00 AM	59685
1309209-03D	HLSF-3839-HMW-008-0913	09/23/13 11:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/13 08:32 AM	59647
	HLSF-3839-HMW-008-0913	09/23/13 11:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/13 08:32 AM	59647

**Lab Order:** 1309209  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill

**PREP DATES REPORT**

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1309209-03D	HLSF-3839-HMW-008-0913	09/23/13 11:40 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	09/30/13 10:01 AM	59702
1309209-03E	HLSF-3839-HMW-008-0913	09/23/13 11:40 AM	Aqueous	SW3005A	Aq Prep Metals: Dissolved	09/27/13 02:08 PM	59692
	HLSF-3839-HMW-008-0913	09/23/13 11:40 AM	Aqueous	SW3005A	Aq Prep Metals: Dissolved	09/27/13 02:08 PM	59692
	HLSF-3839-HMW-008-0913	09/23/13 11:40 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	09/30/13 10:01 AM	59702
1309209-03F	HLSF-3839-HMW-008-0913	09/23/13 11:40 AM	Aqueous	M2320 B	Alkalinity Preparation	09/24/13 11:11 AM	59623
	HLSF-3839-HMW-008-0913	09/23/13 11:40 AM	Aqueous	E300	Anion Preparation	09/24/13 10:20 AM	59619
	HLSF-3839-HMW-008-0913	09/23/13 11:40 AM	Aqueous	M4500-H+ B	pH Preparation	09/24/13 10:20 AM	59622
1309209-03G	HLSF-3839-HMW-008-0913	09/23/13 11:40 AM	Aqueous	SW3510C	Aq Prep Sep Funnel: BNA	09/25/13 08:25 AM	59628
1309209-03H	HLSF-3839-HMW-008-0913	09/23/13 11:40 AM	Aqueous	SW3510C	Aq Prep Sep Funnel: DRO	09/24/13 12:50 PM	59624

**Lab Order:** 1309209  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill

## ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1309209-01A	HLSF-3839-RB-001-0913-TB	Trip Blank	SW8260C	8260 Water Volatiles by GC/MS	59688	1	09/27/13 12:04 PM	GCMS5_130927A
1309209-02A	HLSF-3839-RB-001-0913	Equip Blank	SW8260C	8260 Water Volatiles by GC/MS	59688	1	09/27/13 12:28 PM	GCMS5_130927A
1309209-02B	HLSF-3839-RB-001-0913	Equip Blank	M8015V	TPH Purgeable by GC - Water	59763	1	10/03/13 01:37 PM	GC4_131003A
1309209-02C	HLSF-3839-RB-001-0913	Equip Blank	M5310C	Total Organic Carbon	59685	1	09/27/13 04:02 PM	TOC_130927A
1309209-02D	HLSF-3839-RB-001-0913	Equip Blank	SW7470A	Total Mercury: Aqueous	59702	1	10/02/13 12:46 PM	CETAC_HG_131002A
	HLSF-3839-RB-001-0913	Equip Blank	SW6020A	Trace Metals: ICP-MS - Water	59647	1	10/02/13 12:49 PM	ICP-MS2_131002B
	HLSF-3839-RB-001-0913	Equip Blank	SW6020A	Trace Metals: ICP-MS - Water	59647	1	09/26/13 06:21 PM	ICP-MS3_130926B
1309209-02E	HLSF-3839-RB-001-0913	Equip Blank	SW6020A	Dissolved Metals-ICPMS (0.45μ)	59692	1	10/02/13 09:23 PM	ICP-MS2_131002B
	HLSF-3839-RB-001-0913	Equip Blank	SW6020A	Dissolved Metals-ICPMS (0.45μ)	59692	1	10/02/13 08:54 PM	ICP-MS3_131002B
	HLSF-3839-RB-001-0913	Equip Blank	SW7470A	Mercury Filtered (0.45μ)	59702	1	10/02/13 12:49 PM	CETAC_HG_131002A
1309209-02F	HLSF-3839-RB-001-0913	Equip Blank	M2320 B	Alkalinity	59623	1	09/24/13 11:31 AM	TITRATOR_130924B
	HLSF-3839-RB-001-0913	Equip Blank	E300	Anions by IC method - Water	59619	1	09/24/13 10:32 AM	IC2_130924A
	HLSF-3839-RB-001-0913	Equip Blank	M4500-H+ B	pH	59622	1	09/24/13 10:31 AM	TITRATOR_130924A
1309209-02G	HLSF-3839-RB-001-0913	Equip Blank	SW8270D	Semivolatiles by GC/MS - Water	59628	1	10/09/13 02:31 AM	GCMS9_131008B
1309209-02H	HLSF-3839-RB-001-0913	Equip Blank	M8015D	TPH Extractable by GC - Water	59624	1	09/25/13 11:51 AM	GC15_130925A
1309209-03A	HLSF-3839-HMW-008-0913	Aqueous	SW8260C	8260 Water Volatiles by GC/MS	59688	1	09/27/13 12:52 PM	GCMS5_130927A
1309209-03B	HLSF-3839-HMW-008-0913	Aqueous	M8015V	TPH Purgeable by GC - Water	59763	1	10/03/13 01:17 PM	GC4_131003A
1309209-03C	HLSF-3839-HMW-008-0913	Aqueous	M5310C	Total Organic Carbon	59685	1	09/27/13 04:22 PM	TOC_130927A
1309209-03D	HLSF-3839-HMW-008-0913	Aqueous	SW7470A	Total Mercury: Aqueous	59702	1	10/02/13 12:53 PM	CETAC_HG_131002A
	HLSF-3839-HMW-008-0913	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	59647	500	10/02/13 01:30 PM	ICP-MS2_131002B

**Lab Order:** 1309209  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill

## ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1309209-03D	HLSF-3839-HMW-008-0913	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	59647	1	09/26/13 06:27 PM	ICP-MS3_130926B
1309209-03E	HLSF-3839-HMW-008-0913	Aqueous	SW6020A	Dissolved Metals-ICPMS (0.45μ)	59692	500	10/02/13 10:23 PM	ICP-MS2_131002B
	HLSF-3839-HMW-008-0913	Aqueous	SW6020A	Dissolved Metals-ICPMS (0.45μ)	59692	1	10/02/13 09:00 PM	ICP-MS3_131002B
	HLSF-3839-HMW-008-0913	Aqueous	SW7470A	Mercury Filtered (0.45μ)	59702	1	10/02/13 12:58 PM	CETAC_HG_131002A
1309209-03F	HLSF-3839-HMW-008-0913	Aqueous	M2320 B	Alkalinity	59623	1	09/24/13 11:38 AM	TITRATOR_130924B
	HLSF-3839-HMW-008-0913	Aqueous	E300	Anions by IC method - Water	59619	100	09/24/13 10:46 AM	IC2_130924A
	HLSF-3839-HMW-008-0913	Aqueous	M4500-H+ B	pH	59622	1	09/24/13 10:33 AM	TITRATOR_130924A
1309209-03G	HLSF-3839-HMW-008-0913	Aqueous	SW8270D	Semivolatiles by GC/MS - Water	59628	1	10/09/13 02:55 AM	GCMS9_131008B
1309209-03H	HLSF-3839-HMW-008-0913	Aqueous	M8015D	TPH Extractable by GC - Water	59624	1	09/25/13 12:00 PM	GC15_130925A

# DHL Analytical, Inc.

Date: 11-Oct-13

<b>CLIENT:</b>	Zia Engineering & Environmental	<b>Client Sample ID:</b>	HLSF-3839-RB-001-0913-TB
<b>Project:</b>	HELSTF Construction Landfill	<b>Lab ID:</b>	1309209-01
<b>Project No:</b>	<b>Collection Date:</b> 09/23/13 10:25 AM		
<b>Lab Order:</b>	<b>Matrix:</b> TRIP BLANK		

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>							
				<b>SW8260C</b>			Analyst: DEW
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	09/27/13 12:04 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:04 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	09/27/13 12:04 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	09/27/13 12:04 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	09/27/13 12:04 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:04 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:04 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	09/27/13 12:04 PM
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:04 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	09/27/13 12:04 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:04 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	09/27/13 12:04 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150		mg/L	1	09/27/13 12:04 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:04 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	09/27/13 12:04 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:04 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	09/27/13 12:04 PM
Acetone	0.00667	0.00500	0.0150	J	mg/L	1	09/27/13 12:04 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	09/27/13 12:04 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:04 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	09/27/13 12:04 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM

**Qualifiers:**

- \* Value exceeds TCLP Maximum Concentration Level
- C Sample Result or QC discussed in the Case Narrative
- E TPH pattern not Gas or Diesel Range Pattern
- MDL Method Detection Limit
- RL Reporting Limit
- N Parameter not NELAC certified

B Analyte detected in the associated Method Blank  
DF Dilution Factor  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
S Spike Recovery outside control limits

# DHL Analytical, Inc.

Date: 11-Oct-13

<b>CLIENT:</b>	Zia Engineering & Environmental	<b>Client Sample ID:</b>	HLSF-3839-RB-001-0913-TB
<b>Project:</b>	HELSTF Construction Landfill	<b>Lab ID:</b>	1309209-01
<b>Project No:</b>	<b>Collection Date:</b> 09/23/13 10:25 AM		
<b>Lab Order:</b>	<b>Matrix:</b> TRIP BLANK		

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>							
				<b>SW8260C</b>			Analyst: DEW
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:04 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:04 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:04 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:04 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	09/27/13 12:04 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	09/27/13 12:04 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:04 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	09/27/13 12:04 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:04 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:04 PM
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:04 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:04 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:04 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:04 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/27/13 12:04 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	09/27/13 12:04 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/27/13 12:04 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:04 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	09/27/13 12:04 PM
Surr: 1,2-Dichloroethane-d4	105	0	70-120	%REC		1	09/27/13 12:04 PM
Surr: 4-Bromofluorobenzene	107	0	75-120	%REC		1	09/27/13 12:04 PM
Surr: Dibromofluoromethane	101	0	85-115	%REC		1	09/27/13 12:04 PM
Surr: Toluene-d8	99.4	0	85-120	%REC		1	09/27/13 12:04 PM

**Qualifiers:**

- \* Value exceeds TCLP Maximum Concentration Level
- C Sample Result or QC discussed in the Case Narrative
- E TPH pattern not Gas or Diesel Range Pattern
- MDL Method Detection Limit
- RL Reporting Limit
- N Parameter not NELAC certified

B Analyte detected in the associated Method Blank  
DF Dilution Factor  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
S Spike Recovery outside control limits

# DHL Analytical, Inc.

Date: 11-Oct-13

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1309209

**Client Sample ID:** HLSF-3839-RB-001-0913  
**Lab ID:** 1309209-02  
**Collection Date:** 09/23/13 10:25 AM  
**Matrix:** EQUIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>TPH EXTRACTABLE BY GC - WATER</b>							
TPH-DRO C10-C28	0.145	0.0500	0.100		mg/L	1	09/25/13 11:51 AM
Surr: Isopropylbenzene	52.1	0	47-142	%REC		1	09/25/13 11:51 AM
Surr: Octacosane	86.5	0	51-124	%REC		1	09/25/13 11:51 AM
<b>TPH PURGEABLE BY GC - WATER</b>							
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	10/03/13 01:37 PM
Surr: Tetrachlorethane	102	0	74-138	%REC		1	10/03/13 01:37 PM
<b>MERCURY FILTERED (0.45μ)</b>							
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	10/02/13 12:49 PM
<b>TOTAL MERCURY: AQUEOUS</b>							
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	10/02/13 12:46 PM
<b>DISSOLVED METALS-ICPMS (0.45μ)</b>							
Arsenic	<0.00200	0.00200	0.00600		mg/L	1	10/02/13 08:54 PM
Barium	<0.00300	0.00300	0.0100		mg/L	1	10/02/13 08:54 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	10/02/13 08:54 PM
Calcium	0.135	0.100	0.300	J	mg/L	1	10/02/13 09:23 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	10/02/13 08:54 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	10/02/13 08:54 PM
Magnesium	<0.100	0.100	0.300		mg/L	1	10/02/13 09:23 PM
Potassium	<0.100	0.100	0.300		mg/L	1	10/02/13 08:54 PM
Selenium	<0.00200	0.00200	0.00600		mg/L	1	10/02/13 08:54 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	10/02/13 08:54 PM
Sodium	0.106	0.100	0.300	J	mg/L	1	10/02/13 09:23 PM
<b>TRACE METALS: ICP-MS - WATER</b>							
Arsenic	<0.00200	0.00200	0.00600		mg/L	1	09/26/13 06:21 PM
Barium	<0.00300	0.00300	0.0100		mg/L	1	09/26/13 06:21 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	09/26/13 06:21 PM
Calcium	0.113	0.100	0.300	J	mg/L	1	10/02/13 12:49 PM
Chromium	<0.00200	0.00200	0.00600		mg/L	1	09/26/13 06:21 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	09/26/13 06:21 PM
Magnesium	<0.100	0.100	0.300		mg/L	1	10/02/13 12:49 PM
Potassium	<0.100	0.100	0.300		mg/L	1	09/26/13 06:21 PM
Selenium	<0.00200	0.00200	0.00600		mg/L	1	09/26/13 06:21 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	09/26/13 06:21 PM
Sodium	0.198	0.100	0.300	J	mg/L	1	10/02/13 12:49 PM

<b>Qualifiers:</b>	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
MDL	Method Detection Limit		ND	Not Detected at the Method Detection Limit
RL	Reporting Limit		S	Spike Recovery outside control limits
N	Parameter not NELAC certified			

# DHL Analytical, Inc.

Date: 11-Oct-13

<b>CLIENT:</b>	Zia Engineering & Environmental	<b>Client Sample ID:</b>	HLSF-3839-RB-001-0913
<b>Project:</b>	HELSTF Construction Landfill	<b>Lab ID:</b>	1309209-02
<b>Project No:</b>	<b>Collection Date:</b> 09/23/13 10:25 AM		
<b>Lab Order:</b>	<b>Matrix:</b> EQUIP BLANK		

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILES BY GC/MS - WATER</b>							
		<b>SW8270D</b>					Analyst: <b>KL</b>
1,2,4,5-Tetrachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
1,2-Diphenylhydrazine	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
1-Chloronaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	10/09/13 02:31 AM
1-Methylnaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	10/09/13 02:31 AM
1-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
2,4,5-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
2,4,6-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
2,4-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
2,4-Dimethylphenol	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
2,4-Dinitrophenol	<0.00100	0.00100	0.00400		mg/L	1	10/09/13 02:31 AM
2,4-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
2,6-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
2,6-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
2-Chloronaphthalene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
2-Chlorophenol	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
2-Methylnaphthalene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
2-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
2-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
2-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
2-Nitrophenol	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
2-Picoline	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
3,3'-Dichlorobenzidine	<0.00100	0.00100	0.00400		mg/L	1	10/09/13 02:31 AM
3-Methylcholanthrene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
3-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
4,6-Dinitro-2-methylphenol	<0.000600	0.000600	0.00200		mg/L	1	10/09/13 02:31 AM
4-Aminobiphenyl	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
4-Bromophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
4-Chloro-3-methylphenol	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
4-Chloroaniline	<0.000600	0.000600	0.00200		mg/L	1	10/09/13 02:31 AM
4-Chlorophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
4-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
4-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
4-Nitrophenol	<0.00100	0.00100	0.00400		mg/L	1	10/09/13 02:31 AM
7,12-Dimethylbenz(a)anthracene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Acenaphthene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Acenaphthylene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Acetophenone	0.00130	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Aniline	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM

**Qualifiers:**

- \* Value exceeds TCLP Maximum Concentration Level
- C Sample Result or QC discussed in the Case Narrative
- E TPH pattern not Gas or Diesel Range Pattern
- MDL Method Detection Limit
- RL Reporting Limit
- N Parameter not NELAC certified

B Analyte detected in the associated Method Blank  
DF Dilution Factor  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
S Spike Recovery outside control limits

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1309209

**Client Sample ID:** HLSF-3839-RB-001-0913  
**Lab ID:** 1309209-02  
**Collection Date:** 09/23/13 10:25 AM  
**Matrix:** EQUIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILES BY GC/MS - WATER</b>							
		<b>SW8270D</b>					Analyst: <b>KL</b>
Anthracene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Benzidine	<0.00200	0.00200	0.00600		mg/L	1	10/09/13 02:31 AM
Benzo[a]anthracene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Benzo[a]pyrene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Benzo[b]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Benzo[g,h,i]perylene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Benzo[k]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Benzoic acid	0.00932	0.00200	0.00600		mg/L	1	10/09/13 02:31 AM
Benzyl alcohol	<0.000600	0.000600	0.00200		mg/L	1	10/09/13 02:31 AM
Biphenyl	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Bis(2-chloroethoxy)methane	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Bis(2-chloroethyl)ether	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Bis(2-chloroisopropyl)ether	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Bis(2-ethylhexyl)phthalate	<0.00100	0.00100	0.00300		mg/L	1	10/09/13 02:31 AM
Butyl benzyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	10/09/13 02:31 AM
Carbazole	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Chrysene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Dibenz(a,j)acridine	<0.00100	0.00100	0.00400	N	mg/L	1	10/09/13 02:31 AM
Dibenz[a,h]anthracene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Dibenzofuran	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Diethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	10/09/13 02:31 AM
Dimethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	10/09/13 02:31 AM
Dimethylphenethylamine	<0.00200	0.00200	0.00600		mg/L	1	10/09/13 02:31 AM
Di-n-butyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	10/09/13 02:31 AM
Di-n-octyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	10/09/13 02:31 AM
Diphenylamine	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Ethyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Fluorene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Hexachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Hexachlorobutadiene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Hexachlorocyclopentadiene	<0.000600	0.000600	0.00200		mg/L	1	10/09/13 02:31 AM
Hexachloroethane	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Indeno[1,2,3-cd]pyrene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Isophorone	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Methyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Naphthalene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Nitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM

**Qualifiers:** \* Value exceeds TCLP Maximum Concentration Level  
C Sample Result or QC discussed in the Case Narrative  
E TPH pattern not Gas or Diesel Range Pattern  
MDL Method Detection Limit  
RL Reporting Limit  
N Parameter not NELAC certified

B Analyte detected in the associated Method Blank  
DF Dilution Factor  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
S Spike Recovery outside control limits

# DHL Analytical, Inc.

Date: 11-Oct-13

<b>CLIENT:</b>	Zia Engineering & Environmental	<b>Client Sample ID:</b>	HLSF-3839-RB-001-0913
<b>Project:</b>	HELSTF Construction Landfill	<b>Lab ID:</b>	1309209-02
<b>Project No:</b>	<b>Collection Date:</b> 09/23/13 10:25 AM		
<b>Lab Order:</b>	<b>Matrix:</b> EQUIP BLANK		

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILES BY GC/MS - WATER</b>							
N-Nitrosodimethylamine	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
N-Nitrosodi-n-propylamine	<0.000100	0.000100	0.000800		mg/L	1	10/09/13 02:31 AM
N-Nitrosodiphenylamine	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
N-Nitrosopiperidine	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
p-Dimethylaminoazobenzene	<0.000200	0.000200	0.000800	N	mg/L	1	10/09/13 02:31 AM
Pentachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Pentachloronitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Pentachlorophenol	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Phenacetin	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Phenanthrene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Phenol	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Pronamide	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Pyrene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:31 AM
Pyridine	<0.000800	0.000800	0.00200		mg/L	1	10/09/13 02:31 AM
Surr: 2,4,6-Tribromophenol	86.2	0	42-124	%REC		1	10/09/13 02:31 AM
Surr: 2-Fluorobiphenyl	80.8	0	50-110	%REC		1	10/09/13 02:31 AM
Surr: 2-Fluorophenol	54.5	0	20-110	%REC		1	10/09/13 02:31 AM
Surr: 4-Terphenyl-d14	91.2	0	51-135	%REC		1	10/09/13 02:31 AM
Surr: Nitrobenzene-d5	75.0	0	41-110	%REC		1	10/09/13 02:31 AM
Surr: Phenol-d5	43.5	0	20-115	%REC		1	10/09/13 02:31 AM
<b>8260 WATER VOLATILES BY GC/MS</b>							
				<b>SW8260C</b>			<b>Analyst: DEW</b>
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
1,1-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	09/27/13 12:28 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:28 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	09/27/13 12:28 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	09/27/13 12:28 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	09/27/13 12:28 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:28 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:28 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	09/27/13 12:28 PM

**Qualifiers:**

- \* Value exceeds TCLP Maximum Concentration Level
- C Sample Result or QC discussed in the Case Narrative
- E TPH pattern not Gas or Diesel Range Pattern
- MDL Method Detection Limit
- RL Reporting Limit
- N Parameter not NELAC certified

B Analyte detected in the associated Method Blank  
DF Dilution Factor  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
S Spike Recovery outside control limits

# DHL Analytical, Inc.

Date: 11-Oct-13

<b>CLIENT:</b>	Zia Engineering & Environmental	<b>Client Sample ID:</b>	HLSF-3839-RB-001-0913
<b>Project:</b>	HELSTF Construction Landfill	<b>Lab ID:</b>	1309209-02
<b>Project No:</b>	<b>Collection Date:</b> 09/23/13 10:25 AM		
<b>Lab Order:</b>	<b>Matrix:</b> EQUIP BLANK		

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>							
				<b>SW8260C</b>			Analyst: DEW
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:28 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	09/27/13 12:28 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:28 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	09/27/13 12:28 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150		mg/L	1	09/27/13 12:28 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:28 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	09/27/13 12:28 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:28 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	09/27/13 12:28 PM
Acetone	0.0144	0.00500	0.0150	J	mg/L	1	09/27/13 12:28 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	09/27/13 12:28 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:28 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	09/27/13 12:28 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:28 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:28 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:28 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:28 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	09/27/13 12:28 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	09/27/13 12:28 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:28 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	09/27/13 12:28 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:28 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:28 PM

**Qualifiers:**

- \* Value exceeds TCLP Maximum Concentration Level
- C Sample Result or QC discussed in the Case Narrative
- E TPH pattern not Gas or Diesel Range Pattern
- MDL Method Detection Limit
- RL Reporting Limit
- N Parameter not NELAC certified

B Analyte detected in the associated Method Blank  
DF Dilution Factor  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
S Spike Recovery outside control limits

# DHL Analytical, Inc.

Date: 11-Oct-13

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1309209

**Client Sample ID:** HLSF-3839-RB-001-0913  
**Lab ID:** 1309209-02  
**Collection Date:** 09/23/13 10:25 AM  
**Matrix:** EQUIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>							
		<b>SW8260C</b>					Analyst: <b>DEW</b>
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:28 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:28 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:28 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:28 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/27/13 12:28 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	09/27/13 12:28 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
Trichloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/27/13 12:28 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:28 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	09/27/13 12:28 PM
Surr: 1,2-Dichloroethane-d4	104	0	70-120	%REC		1	09/27/13 12:28 PM
Surr: 4-Bromofluorobenzene	107	0	75-120	%REC		1	09/27/13 12:28 PM
Surr: Dibromofluoromethane	100	0	85-115	%REC		1	09/27/13 12:28 PM
Surr: Toluene-d8	99.5	0	85-120	%REC		1	09/27/13 12:28 PM
<b>ANIONS BY IC METHOD - WATER</b>							
		<b>E300</b>					Analyst: <b>JBC</b>
Chloride	0.462	0.300	1.00	J	mg/L	1	09/24/13 10:32 AM
Sulfate	<1.00	1.00	3.00		mg/L	1	09/24/13 10:32 AM
<b>ALKALINITY</b>							
		<b>M2320 B</b>					Analyst: <b>JBC</b>
Alkalinity, Bicarbonate (As CaCO3)	<12.5	12.5	25.0		mg/L @ pH 4.5	1	09/24/13 11:31 AM
Alkalinity, Carbonate (As CaCO3)	<12.5	12.5	25.0		mg/L @ pH 4.5	1	09/24/13 11:31 AM
Alkalinity, Hydroxide (As CaCO3)	<12.5	12.5	25.0		mg/L @ pH 4.5	1	09/24/13 11:31 AM
Alkalinity, Total (As CaCO3)	<12.5	12.5	25.0		mg/L @ pH 4.5	1	09/24/13 11:31 AM
<b>PH</b>							
pH	8.11	0	0		pH Units@14.8°C	1	09/24/13 10:31 AM
<b>TOTAL ORGANIC CARBON</b>							
Total Organic Carbon	0.302	0.300	1.00	J	mg/L	1	Analyst: <b>JCG</b> 09/27/13 04:02 PM

**Qualifiers:** \* Value exceeds TCLP Maximum Concentration Level  
C Sample Result or QC discussed in the Case Narrative  
E TPH pattern not Gas or Diesel Range Pattern  
MDL Method Detection Limit  
RL Reporting Limit  
N Parameter not NELAC certified

B Analyte detected in the associated Method Blank  
DF Dilution Factor  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
S Spike Recovery outside control limits

# DHL Analytical, Inc.

Date: 11-Oct-13

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1309209

**Client Sample ID:** HLSF-3839-HMW-008-0913  
**Lab ID:** 1309209-03  
**Collection Date:** 09/23/13 11:40 AM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>TPH EXTRACTABLE BY GC - WATER</b>							
TPH-DRO C10-C28	0.0773	0.0500	0.100	J	mg/L	1	09/25/13 12:00 PM
Surr: Isopropylbenzene	57.0	0	47-142	%REC	%REC	1	09/25/13 12:00 PM
Surr: Octacosane	89.4	0	51-124	%REC	%REC	1	09/25/13 12:00 PM
<b>TPH PURGEABLE BY GC - WATER</b>							
Gasoline Range Organics	<0.0600	0.0600	0.100		mg/L	1	10/03/13 01:17 PM
Surr: Tetrachlorethane	105	0	74-138	%REC	%REC	1	10/03/13 01:17 PM
<b>MERCURY FILTERED (0.45μ)</b>							
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	10/02/13 12:58 PM
<b>TOTAL MERCURY: AQUEOUS</b>							
Mercury	<0.0000600	0.0000600	0.000200		mg/L	1	10/02/13 12:53 PM
<b>DISSOLVED METALS-ICPMS (0.45μ)</b>							
Arsenic	0.0139	0.00200	0.00600		mg/L	1	10/02/13 09:00 PM
Barium	0.00842	0.00300	0.0100	J	mg/L	1	10/02/13 09:00 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	10/02/13 09:00 PM
Calcium	425	50.0	150		mg/L	500	10/02/13 10:23 PM
Chromium	0.0209	0.00200	0.00600		mg/L	1	10/02/13 09:00 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	10/02/13 09:00 PM
Magnesium	692	50.0	150		mg/L	500	10/02/13 10:23 PM
Potassium	58.2	50.0	150	J	mg/L	500	10/02/13 10:23 PM
Selenium	0.0812	0.00200	0.00600		mg/L	1	10/02/13 09:00 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	10/02/13 09:00 PM
Sodium	2540	50.0	150		mg/L	500	10/02/13 10:23 PM
<b>TRACE METALS: ICP-MS - WATER</b>							
Arsenic	0.0138	0.00200	0.00600		mg/L	1	09/26/13 06:27 PM
Barium	0.00894	0.00300	0.0100	J	mg/L	1	09/26/13 06:27 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	09/26/13 06:27 PM
Calcium	430	50.0	150		mg/L	500	10/02/13 01:30 PM
Chromium	0.0201	0.00200	0.00600		mg/L	1	09/26/13 06:27 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	09/26/13 06:27 PM
Magnesium	702	50.0	150		mg/L	500	10/02/13 01:30 PM
Potassium	62.5	50.0	150	J	mg/L	500	10/02/13 01:30 PM
Selenium	0.0768	0.00200	0.00600		mg/L	1	09/26/13 06:27 PM
Silver	<0.000600	0.000600	0.00200		mg/L	1	09/26/13 06:27 PM
Sodium	2560	50.0	150		mg/L	500	10/02/13 01:30 PM

**Qualifiers:** \* Value exceeds TCLP Maximum Concentration Level  
C Sample Result or QC discussed in the Case Narrative  
E TPH pattern not Gas or Diesel Range Pattern  
MDL Method Detection Limit  
RL Reporting Limit  
N Parameter not NELAC certified

B Analyte detected in the associated Method Blank  
DF Dilution Factor  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
S Spike Recovery outside control limits

**CLIENT:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill  
**Project No:**  
**Lab Order:** 1309209

**Client Sample ID:** HLSF-3839-HMW-008-0913  
**Lab ID:** 1309209-03  
**Collection Date:** 09/23/13 11:40 AM  
**Matrix:** AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILES BY GC/MS - WATER</b>							
		<b>SW8270D</b>					Analyst: <b>KL</b>
1,2,4,5-Tetrachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
1,2-Diphenylhydrazine	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
1-Chloronaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	10/09/13 02:55 AM
1-Methylnaphthalene	<0.000200	0.000200	0.000800	N	mg/L	1	10/09/13 02:55 AM
1-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
2,4,5-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
2,4,6-Trichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
2,4-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
2,4-Dimethylphenol	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
2,4-Dinitrophenol	<0.00100	0.00100	0.00400		mg/L	1	10/09/13 02:55 AM
2,4-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
2,6-Dichlorophenol	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
2,6-Dinitrotoluene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
2-Chloronaphthalene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
2-Chlorophenol	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
2-Methylnaphthalene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
2-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
2-Naphthylamine	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
2-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
2-Nitrophenol	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
2-Picoline	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
3,3'-Dichlorobenzidine	<0.00100	0.00100	0.00400		mg/L	1	10/09/13 02:55 AM
3-Methylcholanthrene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
3-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
4,6-Dinitro-2-methylphenol	<0.000600	0.000600	0.00200		mg/L	1	10/09/13 02:55 AM
4-Aminobiphenyl	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
4-Bromophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
4-Chloro-3-methylphenol	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
4-Chloroaniline	<0.000600	0.000600	0.00200		mg/L	1	10/09/13 02:55 AM
4-Chlorophenyl phenyl ether	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
4-Methylphenol	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
4-Nitroaniline	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
4-Nitrophenol	<0.00100	0.00100	0.00400		mg/L	1	10/09/13 02:55 AM
7,12-Dimethylbenz(a)anthracene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Acenaphthene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Acenaphthylene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Acetophenone	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Aniline	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM

**Qualifiers:** \* Value exceeds TCLP Maximum Concentration Level  
C Sample Result or QC discussed in the Case Narrative  
E TPH pattern not Gas or Diesel Range Pattern  
MDL Method Detection Limit  
RL Reporting Limit  
N Parameter not NELAC certified

B Analyte detected in the associated Method Blank  
DF Dilution Factor  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
S Spike Recovery outside control limits

# DHL Analytical, Inc.

Date: 11-Oct-13

<b>CLIENT:</b>	Zia Engineering & Environmental	<b>Client Sample ID:</b>	HLSF-3839-HMW-008-0913
<b>Project:</b>	HELSTF Construction Landfill	<b>Lab ID:</b>	1309209-03
<b>Project No:</b>	<b>Collection Date:</b> 09/23/13 11:40 AM		
<b>Lab Order:</b>	<b>Matrix:</b> AQUEOUS		

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILES BY GC/MS - WATER</b>							
				<b>SW8270D</b>			Analyst: <b>KL</b>
Anthracene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Benzidine	<0.00200	0.00200	0.00600		mg/L	1	10/09/13 02:55 AM
Benzo[a]anthracene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Benzo[a]pyrene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Benzo[b]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Benzo[g,h,i]perylene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Benzo[k]fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Benzoic acid	0.00796	0.00200	0.00600		mg/L	1	10/09/13 02:55 AM
Benzyl alcohol	<0.000600	0.000600	0.00200		mg/L	1	10/09/13 02:55 AM
Biphenyl	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Bis(2-chloroethoxy)methane	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Bis(2-chloroethyl)ether	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Bis(2-chloroisopropyl)ether	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Bis(2-ethylhexyl)phthalate	<0.00100	0.00100	0.00300		mg/L	1	10/09/13 02:55 AM
Butyl benzyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	10/09/13 02:55 AM
Carbazole	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Chrysene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Dibenz(a,j)acridine	<0.00100	0.00100	0.00400	N	mg/L	1	10/09/13 02:55 AM
Dibenz[a,h]anthracene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Dibenzofuran	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Diethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	10/09/13 02:55 AM
Dimethyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	10/09/13 02:55 AM
Dimethylphenethylamine	<0.00200	0.00200	0.00600		mg/L	1	10/09/13 02:55 AM
Di-n-butyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	10/09/13 02:55 AM
Di-n-octyl phthalate	<0.00200	0.00200	0.00600		mg/L	1	10/09/13 02:55 AM
Diphenylamine	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Ethyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Fluoranthene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Fluorene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Hexachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Hexachlorobutadiene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Hexachlorocyclopentadiene	<0.000600	0.000600	0.00200		mg/L	1	10/09/13 02:55 AM
Hexachloroethane	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Indeno[1,2,3-cd]pyrene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Isophorone	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Methyl methanesulfonate	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Naphthalene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Nitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM

**Qualifiers:**

- \* Value exceeds TCLP Maximum Concentration Level
- C Sample Result or QC discussed in the Case Narrative
- E TPH pattern not Gas or Diesel Range Pattern
- MDL Method Detection Limit
- RL Reporting Limit
- N Parameter not NELAC certified

B Analyte detected in the associated Method Blank  
DF Dilution Factor  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
S Spike Recovery outside control limits

# DHL Analytical, Inc.

Date: 11-Oct-13

<b>CLIENT:</b>	Zia Engineering & Environmental	<b>Client Sample ID:</b>	HLSF-3839-HMW-008-0913
<b>Project:</b>	HELSTF Construction Landfill	<b>Lab ID:</b>	1309209-03
<b>Project No:</b>	<b>Collection Date:</b> 09/23/13 11:40 AM		
<b>Lab Order:</b>	<b>Matrix:</b> AQUEOUS		

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>SEMIVOLATILES BY GC/MS - WATER</b>							
				<b>SW8270D</b>			Analyst: <b>KL</b>
N-Nitrosodimethylamine	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
N-Nitrosodi-n-propylamine	<0.000100	0.000100	0.000800		mg/L	1	10/09/13 02:55 AM
N-Nitrosodiphenylamine	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
N-Nitrosopiperidine	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
p-Dimethylaminoazobenzene	<0.000200	0.000200	0.000800	N	mg/L	1	10/09/13 02:55 AM
Pentachlorobenzene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Pentachloronitrobenzene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Pentachlorophenol	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Phenacetin	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Phenanthrene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Phenol	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Pronamide	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Pyrene	<0.000200	0.000200	0.000800		mg/L	1	10/09/13 02:55 AM
Pyridine	<0.000800	0.000800	0.00200		mg/L	1	10/09/13 02:55 AM
Surr: 2,4,6-Tribromophenol	94.5	0	42-124		%REC	1	10/09/13 02:55 AM
Surr: 2-Fluorobiphenyl	87.2	0	50-110		%REC	1	10/09/13 02:55 AM
Surr: 2-Fluorophenol	57.2	0	20-110		%REC	1	10/09/13 02:55 AM
Surr: 4-Terphenyl-d14	101	0	51-135		%REC	1	10/09/13 02:55 AM
Surr: Nitrobenzene-d5	79.5	0	41-110		%REC	1	10/09/13 02:55 AM
Surr: Phenol-d5	46.0	0	20-115		%REC	1	10/09/13 02:55 AM
<b>8260 WATER VOLATILES BY GC/MS</b>							
				<b>SW8260C</b>			Analyst: <b>DEW</b>
1,1,1,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
1,1,1-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
1,1,2,2-Tetrachloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
1,1,2-Trichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
1,1-Dichloroethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
1,1-Dichloroethene	0.000480	0.000200	0.00100	J	mg/L	1	09/27/13 12:52 PM
1,1-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
1,2,3-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	09/27/13 12:52 PM
1,2,3-Trichloropropane	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:52 PM
1,2,4-Trichlorobenzene	<0.00150	0.00150	0.00500		mg/L	1	09/27/13 12:52 PM
1,2,4-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	09/27/13 12:52 PM
1,2-Dibromo-3-chloropropane	<0.00300	0.00300	0.0100		mg/L	1	09/27/13 12:52 PM
1,2-Dibromoethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
1,2-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:52 PM
1,2-Dichloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:52 PM
1,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
1,3,5-Trimethylbenzene	<0.00150	0.00150	0.00500		mg/L	1	09/27/13 12:52 PM

**Qualifiers:**

- \* Value exceeds TCLP Maximum Concentration Level
- C Sample Result or QC discussed in the Case Narrative
- E TPH pattern not Gas or Diesel Range Pattern
- MDL Method Detection Limit
- RL Reporting Limit
- N Parameter not NELAC certified

B Analyte detected in the associated Method Blank  
DF Dilution Factor  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
S Spike Recovery outside control limits

# DHL Analytical, Inc.

Date: 11-Oct-13

<b>CLIENT:</b>	Zia Engineering & Environmental	<b>Client Sample ID:</b>	HLSF-3839-HMW-008-0913
<b>Project:</b>	HELSTF Construction Landfill	<b>Lab ID:</b>	1309209-03
<b>Project No:</b>	<b>Collection Date:</b> 09/23/13 11:40 AM		
<b>Lab Order:</b>	<b>Matrix:</b> AQUEOUS		

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>							
				<b>SW8260C</b>			Analyst: DEW
1,3-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:52 PM
1,3-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
1,4-Dichloro-2-butene	<0.00200	0.00200	0.00200		mg/L	1	09/27/13 12:52 PM
1,4-Dichlorobenzene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:52 PM
2,2-Dichloropropane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
2-Butanone	<0.00500	0.00500	0.0150		mg/L	1	09/27/13 12:52 PM
2-Chloroethylvinylether	<0.00500	0.00500	0.0150		mg/L	1	09/27/13 12:52 PM
2-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:52 PM
2-Hexanone	<0.00500	0.00500	0.0150		mg/L	1	09/27/13 12:52 PM
4-Chlorotoluene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:52 PM
4-Methyl-2-pentanone	<0.00500	0.00500	0.0150		mg/L	1	09/27/13 12:52 PM
Acetone	<0.00500	0.00500	0.0150		mg/L	1	09/27/13 12:52 PM
Acrylonitrile	<0.00100	0.00100	0.00300		mg/L	1	09/27/13 12:52 PM
Benzene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
Bromobenzene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
Bromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
Bromodichloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
Bromoform	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
Bromomethane	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:52 PM
Carbon disulfide	<0.00500	0.00500	0.0150		mg/L	1	09/27/13 12:52 PM
Carbon tetrachloride	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
Chlorobenzene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
Chloroethane	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:52 PM
Chloroform	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:52 PM
Chloromethane	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:52 PM
cis-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
cis-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
Dibromochloromethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
Dibromomethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
Dichlorodifluoromethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
Ethylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:52 PM
Iodomethane	<0.00500	0.00500	0.0150		mg/L	1	09/27/13 12:52 PM
Isopropylbenzene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
m,p-Xylene	<0.000600	0.000600	0.00200		mg/L	1	09/27/13 12:52 PM
Methyl tert-butyl ether	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:52 PM
Methylene chloride	<0.00250	0.00250	0.00250		mg/L	1	09/27/13 12:52 PM
n-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:52 PM
n-Propylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:52 PM

**Qualifiers:**

- \* Value exceeds TCLP Maximum Concentration Level
- C Sample Result or QC discussed in the Case Narrative
- E TPH pattern not Gas or Diesel Range Pattern
- MDL Method Detection Limit
- RL Reporting Limit
- N Parameter not NELAC certified

B Analyte detected in the associated Method Blank  
DF Dilution Factor  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
S Spike Recovery outside control limits

# DHL Analytical, Inc.

Date: 11-Oct-13

<b>CLIENT:</b>	Zia Engineering & Environmental	<b>Client Sample ID:</b> HLSF-3839-HMW-008-0913					
<b>Project:</b>	HELSTF Construction Landfill	<b>Lab ID:</b> 1309209-03					
<b>Project No:</b>	<b>Collection Date:</b> 09/23/13 11:40 AM						
<b>Lab Order:</b>	<b>Matrix:</b> AQUEOUS						
Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
<b>8260 WATER VOLATILES BY GC/MS</b>		<b>SW8260C</b>				Analyst: <b>DEW</b>	
o-Xylene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:52 PM
p-Isopropyltoluene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:52 PM
sec-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:52 PM
Styrene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
tert-Butylbenzene	<0.000300	0.000300	0.00100		mg/L	1	09/27/13 12:52 PM
Tetrachloroethene	<0.000600	0.000600	0.00200		mg/L	1	09/27/13 12:52 PM
Toluene	<0.000600	0.000600	0.00200		mg/L	1	09/27/13 12:52 PM
trans-1,2-Dichloroethene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
trans-1,3-Dichloropropene	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
Trichloroethene	0.00167	0.000600	0.00200	J	mg/L	1	09/27/13 12:52 PM
Trichlorofluoromethane	<0.000200	0.000200	0.00100		mg/L	1	09/27/13 12:52 PM
Vinyl chloride	<0.000100	0.000100	0.00100		mg/L	1	09/27/13 12:52 PM
Surr: 1,2-Dichloroethane-d4	104	0	70-120		%REC	1	09/27/13 12:52 PM
Surr: 4-Bromofluorobenzene	109	0	75-120		%REC	1	09/27/13 12:52 PM
Surr: Dibromofluoromethane	99.0	0	85-115		%REC	1	09/27/13 12:52 PM
Surr: Toluene-d8	100	0	85-120		%REC	1	09/27/13 12:52 PM
<b>ANIONS BY IC METHOD - WATER</b>		<b>E300</b>				Analyst: <b>JBC</b>	
Chloride	1330	30.0	100		mg/L	100	09/24/13 10:46 AM
Sulfate	6940	100	300		mg/L	100	09/24/13 10:46 AM
<b>ALKALINITY</b>		<b>M2320 B</b>				Analyst: <b>JBC</b>	
Alkalinity, Bicarbonate (As CaCO3)	249	12.5	25.0		mg/L @ pH 4.52	1	09/24/13 11:38 AM
Alkalinity, Carbonate (As CaCO3)	<12.5	12.5	25.0		mg/L @ pH 4.52	1	09/24/13 11:38 AM
Alkalinity, Hydroxide (As CaCO3)	<12.5	12.5	25.0		mg/L @ pH 4.52	1	09/24/13 11:38 AM
Alkalinity, Total (As CaCO3)	249	12.5	25.0		mg/L @ pH 4.52	1	09/24/13 11:38 AM
<b>PH</b>		<b>M4500-H+ B</b>				Analyst: <b>JBC</b>	
pH	7.43	0	0		pH Units@15.2°C	1	09/24/13 10:33 AM
<b>TOTAL ORGANIC CARBON</b>		<b>M5310C</b>				Analyst: <b>JCG</b>	
Total Organic Carbon	<0.300	0.300	1.00		mg/L	1	09/27/13 04:22 PM

**Qualifiers:** \* Value exceeds TCLP Maximum Concentration Level  
 C Sample Result or QC discussed in the Case Narrative  
 E TPH pattern not Gas or Diesel Range Pattern  
 MDL Method Detection Limit  
 RL Reporting Limit  
 N Parameter not NELAC certified

B Analyte detected in the associated Method Blank  
 DF Dilution Factor  
 J Analyte detected between MDL and RL  
 ND Not Detected at the Method Detection Limit  
 S Spike Recovery outside control limits

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

**ANALYTICAL QC SUMMARY REPORT****RunID:** GC15\_130925A

The QC data in batch 59624 applies to the following samples: 1309209-02H, 1309209-03H

Sample ID: LCS-59624	Batch ID: 59624	TestNo: M8015D	Units: mg/L							
SampType: LCS	Run ID: GC15_130925A	Analysis Date: 9/25/2013 10:18:42 AM	Prep Date: 9/24/2013							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	1.01	0.100	1.250	0	80.8	50	114			
Surr: Isopropylbenzene	0.0467		0.1000		46.7	47	142			
Surr: Octacosane	0.0882		0.1000		88.2	51	124			
Sample ID: MB-59624	Batch ID: 59624	TestNo: M8015D	Units: mg/L							
SampType: MBLK	Run ID: GC15_130925A	Analysis Date: 9/25/2013 10:35:40 AM	Prep Date: 9/24/2013							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	<0.0800	0.100								
Surr: Isopropylbenzene	0.0512		0.1000		51.2	47	142			
Surr: Octacosane	0.0875		0.1000		87.5	51	124			
Sample ID: 1309204-09HMS	Batch ID: 59624	TestNo: M8015D	Units: mg/L							
SampType: MS	Run ID: GC15_130925A	Analysis Date: 9/25/2013 11:26:31 AM	Prep Date: 9/24/2013							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	1.17	0.100	1.250	0.08274	87.1	50	114			
Surr: Isopropylbenzene	0.0653		0.1000		65.3	47	142			
Surr: Octacosane	0.0949		0.1000		94.9	51	124			
Sample ID: 1309204-09HMSD	Batch ID: 59624	TestNo: M8015D	Units: mg/L							
SampType: MSD	Run ID: GC15_130925A	Analysis Date: 9/25/2013 11:34:59 AM	Prep Date: 9/24/2013							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	1.18	0.100	1.250	0.08274	87.5	50	114	0.410	30	
Surr: Isopropylbenzene	0.0594		0.1000		59.4	47	142	0	0	
Surr: Octacosane	0.0944		0.1000		94.4	51	124	0	0	

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GC15\_130925A

Sample ID: ICV-130925	Batch ID: R68808	TestNo:	M8015D	Units:	mg/L					
SampType: ICV	Run ID: GC15_130925A	Analysis Date: 9/25/2013 10:06:12 AM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	500	0.100	500.0	0	99.9	80	120			
Surr: Isopropylbenzene	24.5		25.00		98.2	80	120			
Surr: Octacosane	20.1		25.00		80.3	80	120			

Sample ID: CCV1-130925	Batch ID: R68808	TestNo:	M8015D	Units:	mg/L					
SampType: CCV	Run ID: GC15_130925A	Analysis Date: 9/25/2013 12:20:53 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
TPH-DRO C10-C28	253	0.100	250.0	0	101	80	120			
Surr: Isopropylbenzene	13.3		12.50		106	80	120			
Surr: Octacosane	12.7		12.50		102	80	120			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GC4\_131003A

The QC data in batch 59763 applies to the following samples: 1309209-02B, 1309209-03B

Sample ID: <b>LCS-59763</b>	Batch ID: <b>59763</b>	TestNo: <b>M8015V</b>	Units: <b>mg/L</b>							
SampType: <b>LCS</b>	Run ID: <b>GC4_131003A</b>	Analysis Date: <b>10/3/2013 10:24:53 AM</b>	Prep Date: <b>10/3/2013</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	4.56	0.100	5.000	0	91.3	68	126			
Surr: Tetrachlorethene	0.195		0.2000		97.5	74	138			
Sample ID: <b>MB-59763</b>	Batch ID: <b>59763</b>	TestNo: <b>M8015V</b>	Units: <b>mg/L</b>							
SampType: <b>MBLK</b>	Run ID: <b>GC4_131003A</b>	Analysis Date: <b>10/3/2013 11:06:25 AM</b>	Prep Date: <b>10/3/2013</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	<0.0600	0.100								
Surr: Tetrachlorethene	0.190		0.2000		95.2	74	138			
Sample ID: <b>1309209-03BMS</b>	Batch ID: <b>59763</b>	TestNo: <b>M8015V</b>	Units: <b>mg/L</b>							
SampType: <b>MS</b>	Run ID: <b>GC4_131003A</b>	Analysis Date: <b>10/3/2013 3:24:14 PM</b>	Prep Date: <b>10/3/2013</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	5.38	0.100	5.000	0	108	67	136			
Surr: Tetrachlorethene	0.205		0.2000		103	74	138			
Sample ID: <b>1309209-03BMSD</b>	Batch ID: <b>59763</b>	TestNo: <b>M8015V</b>	Units: <b>mg/L</b>							
SampType: <b>MSD</b>	Run ID: <b>GC4_131003A</b>	Analysis Date: <b>10/3/2013 3:44:01 PM</b>	Prep Date: <b>10/3/2013</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	5.48	0.100	5.000	0	110	67	136	1.80	30	
Surr: Tetrachlorethene	0.205		0.2000		102	74	138	0	0	

**Qualifiers:**

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GC4\_131003A

Sample ID: ICV-131003	Batch ID: R68960	TestNo:	M8015V	Units:	mg/L					
SampType: ICV	Run ID: GC4_131003A	Analysis Date: 10/3/2013 9:52:27 AM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	10.7	0.100	10.00	0	107	80	120			
Surr: Tetrachlorethene	0.174		0.2000		87.2	74	138			

Sample ID: CCV1-131003	Batch ID: R68960	TestNo:	M8015V	Units:	mg/L					
SampType: CCV	Run ID: GC4_131003A	Analysis Date: 10/3/2013 2:36:46 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	5.52	0.100	5.000	0	110	80	120			
Surr: Tetrachlorethene	0.208		0.2000		104	74	138			

Sample ID: CCV2-131003	Batch ID: R68960	TestNo:	M8015V	Units:	mg/L					
SampType: CCV	Run ID: GC4_131003A	Analysis Date: 10/3/2013 4:03:55 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics	5.40	0.100	5.000	0	108	80	120			
Surr: Tetrachlorethene	0.193		0.2000		96.6	74	138			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** CETAC\_HG\_131002A

The QC data in batch 59702 applies to the following samples: 1309209-02D, 1309209-02E, 1309209-03D, 1309209-03E

Sample ID: 1309204-09E MS	Batch ID: 59702	TestNo: SW7470A	Units: mg/L
SampType: MS	Run ID: CETAC_HG_131002A	Analysis Date: 10/2/2013 12:42:14 PM	Prep Date: 9/30/2013
<b>Analyte</b> Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual			
Mercury	0.00204	0.000200	0.00200 0 102 80 120
Sample ID: 1309204-09E MSD	Batch ID: 59702	TestNo: SW7470A	Units: mg/L
SampType: MSD	Run ID: CETAC_HG_131002A	Analysis Date: 10/2/2013 12:44:18 PM	Prep Date: 9/30/2013
<b>Analyte</b> Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual			
Mercury	0.00202	0.000200	0.00200 0 101 80 120 0.985 15
The QC data in batch 59702 applies to the following samples: 1309209-02D, 1309209-02E, 1309209-03D, 1309209-03E			
Sample ID: MB-59702	Batch ID: 59702	TestNo: SW7470A	Units: mg/L
SampType: MBLK	Run ID: CETAC_HG_131002A	Analysis Date: 10/2/2013 11:35:18 AM	Prep Date: 9/30/2013
<b>Analyte</b> Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual			
Mercury	<0.0000600	0.000200	
Sample ID: LCS-59702	Batch ID: 59702	TestNo: SW7470A	Units: mg/L
SampType: LCS	Run ID: CETAC_HG_131002A	Analysis Date: 10/2/2013 11:39:23 AM	Prep Date: 9/30/2013
<b>Analyte</b> Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual			
Mercury	0.00202	0.000200	0.00200 0 101 85 115
Sample ID: LCSD-59702	Batch ID: 59702	TestNo: SW7470A	Units: mg/L
SampType: LCSD	Run ID: CETAC_HG_131002A	Analysis Date: 10/2/2013 11:41:25 AM	Prep Date: 9/30/2013
<b>Analyte</b> Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual			
Mercury	0.00196	0.000200	0.00200 0 98.0 85 115 3.02 15
Sample ID: 1309204-09D SD	Batch ID: 59702	TestNo: SW7470A	Units: mg/L
SampType: SD	Run ID: CETAC_HG_131002A	Analysis Date: 10/2/2013 11:49:34 AM	Prep Date: 9/30/2013
<b>Analyte</b> Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual			
Mercury	<0.000300	0.00100	0 0 0 0 10
Sample ID: 1309204-09D PDS	Batch ID: 59702	TestNo: SW7470A	Units: mg/L
SampType: PDS	Run ID: CETAC_HG_131002A	Analysis Date: 10/2/2013 11:51:37 AM	Prep Date: 9/30/2013
<b>Analyte</b> Result RL SPK value Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual			
Mercury	0.00233	0.000200	0.00250 0 93.2 85 115

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** CETAC\_HG\_131002A

Sample ID: 1309204-09D MS	Batch ID: 59702	TestNo:	SW7470A	Units:	mg/L					
SampType: MS	Run ID: CETAC_HG_131002A	Analysis Date: 10/2/2013 11:53:40 AM		Prep Date:	9/30/2013					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00205	0.000200	0.00200	0	103	80	120			
Sample ID: 1309204-09D MSD	Batch ID: 59702	TestNo:	SW7470A	Units:	mg/L					
SampType: MSD	Run ID: CETAC_HG_131002A	Analysis Date: 10/2/2013 11:59:51 AM		Prep Date:	9/30/2013					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00200	0.000200	0.00200	0	100	80	120	2.47	15	

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** CETAC\_HG\_131002A

Sample ID: ICV-131002	Batch ID: R68945	TestNo:	SW7470A	Units:	mg/L					
SampType: ICV	Run ID: CETAC_HG_131002A	Analysis Date: 10/2/2013 11:31:13 AM		Prep Date:						
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00411	0.000200	0.00400	0	103	90	110			
Sample ID: CCV1-131002	Batch ID: R68945	TestNo:	SW7470A	Units:	mg/L					
SampType: CCV	Run ID: CETAC_HG_131002A	Analysis Date: 10/2/2013 11:55:45 AM		Prep Date:						
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00204	0.000200	0.00200	0	102	90	110			
Sample ID: CCV2-131002	Batch ID: R68945	TestNo:	SW7470A	Units:	mg/L					
SampType: CCV	Run ID: CETAC_HG_131002A	Analysis Date: 10/2/2013 12:21:16 PM		Prep Date:						
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00205	0.000200	0.00200	0	103	90	110			
Sample ID: CCV3-131002	Batch ID: R68945	TestNo:	SW7470A	Units:	mg/L					
SampType: CCV	Run ID: CETAC_HG_131002A	Analysis Date: 10/2/2013 2:19:00 PM		Prep Date:						
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00206	0.000200	0.00200	0	103	90	110			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** ICP-MS2\_131002B

The QC data in batch 59647 applies to the following samples: 1309209-02D, 1309209-03D

Sample ID: 1309204-09D SD	Batch ID: 59647	TestNo:	SW6020A	Units:	mg/L					
SampType: SD	Run ID: ICP-MS2_131002B	Analysis Date: 10/2/2013 1:01:00 PM		Prep Date:	9/26/2013					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	393	150	0	444		12.2	10	R		
Magnesium	240	150	0	267		10.6	10	R		
Potassium	<50.0	150	0	47.8		0	10			
Sodium	2080	150	0	2350		12.3	10	R		

Sample ID: 1309204-09D PDS	Batch ID: 59647	TestNo:	SW6020A	Units:	mg/L					
SampType: PDS	Run ID: ICP-MS2_131002B	Analysis Date: 10/2/2013 1:36:00 PM		Prep Date:	9/26/2013					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	957	30.0	500	444	103	80	120			
Magnesium	775	30.0	500	267	101	80	120			
Potassium	530	30.0	500	47.8	96.4	80	120			
Sodium	2840	30.0	500	2350	98.2	80	120			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** ICP-MS2\_131002B

The QC data in batch 59692 applies to the following samples: 1309209-02E, 1309209-03E

Sample ID: 1309204-09E SD	Batch ID: 59692	TestNo:	SW6020A	Units:	mg/L					
SampType: SD	Run ID: ICP-MS2_131002B	Analysis Date: 10/2/2013 9:53:00 PM		Prep Date:	9/27/2013					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	406	150	0	420				3.50	10	
Magnesium	251	150	0	246				2.11	10	
Potassium	51.8	150	0	46.3				11.0	10	R
Sodium	2180	150	0	2260				3.65	10	

Sample ID: 1309204-09E PDS	Batch ID: 59692	TestNo:	SW6020A	Units:	mg/L					
SampType: PDS	Run ID: ICP-MS2_131002B	Analysis Date: 10/2/2013 10:29:00 PM		Prep Date:	9/27/2013					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	938	30.0	500	420	104	80	120			
Magnesium	754	30.0	500	246	102	80	120			
Potassium	522	30.0	500	46.3	95.2	80	120			
Sodium	2770	30.0	500	2260	101	80	120			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
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**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** ICP-MS2\_131002B

Sample ID: CCV1-131002	Batch ID: R68937	TestNo: SW6020A			Units: mg/L
SampType: CCV	Run ID: ICP-MS2_131002B	Analysis Date: 10/2/2013 1:42:00 PM			Prep Date:
Analyte	Result	RL	SPK value	Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Calcium	5.06	0.300	5.00	0	101 90 110
Magnesium	4.96	0.300	5.00	0	99.3 90 110
Potassium	4.72	0.300	5.00	0	94.3 90 110
Sodium	4.84	0.300	5.00	0	96.7 90 110

Sample ID: CCV4-131002	Batch ID: R68937	TestNo: SW6020A			Units: mg/L
SampType: CCV	Run ID: ICP-MS2_131002B	Analysis Date: 10/2/2013 8:24:00 PM			Prep Date:
Analyte	Result	RL	SPK value	Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Calcium	4.98	0.300	5.00	0	99.6 90 110
Magnesium	5.03	0.300	5.00	0	101 90 110
Potassium	4.83	0.300	5.00	0	96.7 90 110
Sodium	4.88	0.300	5.00	0	97.7 90 110

Sample ID: CCV5-131002	Batch ID: R68937	TestNo: SW6020A			Units: mg/L
SampType: CCV	Run ID: ICP-MS2_131002B	Analysis Date: 10/2/2013 10:46:00 PM			Prep Date:
Analyte	Result	RL	SPK value	Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Calcium	5.04	0.300	5.00	0	101 90 110
Magnesium	5.04	0.300	5.00	0	101 90 110
Potassium	4.83	0.300	5.00	0	96.6 90 110
Sodium	4.87	0.300	5.00	0	97.5 90 110

Sample ID: ICV1-131002	Batch ID: R68937	TestNo: SW6020A			Units: mg/L
SampType: ICV	Run ID: ICP-MS2_131002B	Analysis Date: 10/2/2013 12:06:00 PM			Prep Date:
Analyte	Result	RL	SPK value	Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Calcium	2.49	0.300	2.50	0	99.7 90 110
Magnesium	2.53	0.300	2.50	0	101 90 110
Potassium	2.40	0.300	2.50	0	96.0 90 110
Sodium	2.42	0.300	2.50	0	96.9 90 110

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** ICP-MS3\_130926B

The QC data in batch 59647 applies to the following samples: 1309209-02D, 1309209-03D

Sample ID: MB-59647	Batch ID: 59647	TestNo: SW6020A	Units: mg/L							
SampType: MBLK	Run ID: ICP-MS3_130926B	Analysis Date: 9/26/2013 5:21:00 PM	Prep Date: 9/26/2013							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Lead	<0.000300	0.00100								
Magnesium	<0.100	0.300								
Potassium	<0.100	0.300								
Selenium	<0.00200	0.00500								
Silver	<0.00100	0.00200								
Sodium	<0.100	0.300								

Sample ID: LCS-59647	Batch ID: 59647	TestNo: SW6020A	Units: mg/L							
SampType: LCS	Run ID: ICP-MS3_130926B	Analysis Date: 9/26/2013 5:27:00 PM	Prep Date: 9/26/2013							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.197	0.00500	0.200	0	98.3	80	120			
Barium	0.191	0.0100	0.200	0	95.3	80	120			
Cadmium	0.190	0.00100	0.200	0	95.1	80	120			
Calcium	4.80	0.300	5.00	0	96.1	80	120			
Chromium	0.190	0.00500	0.200	0	94.8	80	120			
Lead	0.193	0.00100	0.200	0	96.7	80	120			
Magnesium	4.78	0.300	5.00	0	95.5	80	120			
Potassium	5.08	0.300	5.00	0	102	80	120			
Selenium	0.199	0.00500	0.200	0	99.5	80	120			
Silver	0.194	0.00200	0.200	0	97.0	80	120			
Sodium	4.74	0.300	5.00	0	94.8	80	120			

Sample ID: LCSD-59647	Batch ID: 59647	TestNo: SW6020A	Units: mg/L							
SampType: LCSD	Run ID: ICP-MS3_130926B	Analysis Date: 9/26/2013 5:33:00 PM	Prep Date: 9/26/2013							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.193	0.00500	0.200	0	96.4	80	120	1.90	20	
Barium	0.190	0.0100	0.200	0	94.9	80	120	0.421	20	
Cadmium	0.189	0.00100	0.200	0	94.4	80	120	0.739	20	
Calcium	4.90	0.300	5.00	0	98.0	80	120	2.00	20	
Chromium	0.188	0.00500	0.200	0	93.9	80	120	0.901	20	
Lead	0.194	0.00100	0.200	0	96.9	80	120	0.207	20	
Magnesium	4.84	0.300	5.00	0	96.9	80	120	1.39	20	
Potassium	5.05	0.300	5.00	0	101	80	120	0.671	20	

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
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**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** ICP-MS3\_130926B

Sample ID: <b>LCSD-59647</b>	Batch ID: <b>59647</b>	TestNo: <b>SW6020A</b>	Units: <b>mg/L</b>
SampType: <b>LCSD</b>	Run ID: <b>ICP-MS3_130926B</b>	Analysis Date: <b>9/26/2013 5:33:00 PM</b>	Prep Date: <b>9/26/2013</b>
<b>Analyte</b> <b>Result</b> <b>RL</b> <b>SPK value</b> <b>Ref Val</b> <b>%REC</b> <b>LowLimit</b> <b>HighLimit</b> <b>%RPD</b> <b>RPDLimit</b> <b>Qual</b>			
Selenium      0.198      0.00500      0.200      0      99.0      80      120      0.554      20			
Silver      0.195      0.00200      0.200      0      97.6      80      120      0.514      20			
Sodium      5.08      0.300      5.00      0      102      80      120      6.83      20			
<b>Sample ID: 1309204-09D SD</b> <b>Batch ID: 59647</b>			
SampType: <b>SD</b> Run ID: <b>ICP-MS3_130926B</b>			
Analysis Date: <b>9/26/2013 5:51:00 PM</b>			
Prep Date: <b>9/26/2013</b>			
<b>Analyte</b> <b>Result</b> <b>RL</b> <b>SPK value</b> <b>Ref Val</b> <b>%REC</b> <b>LowLimit</b> <b>HighLimit</b> <b>%RPD</b> <b>RPDLimit</b> <b>Qual</b>			
Arsenic      <0.0100      0.0250      0      0.00328      0      10			
Barium      0.0160      0.0500      0      0.0157      0      1.96      10			
Cadmium      <0.00150      0.00500      0      0      0      0      10			
Chromium      0.0298      0.0250      0      0.0276      0      7.87      10			
Lead      <0.00150      0.00500      0      0      0      0      10			
Selenium      0.0508      0.0250      0      0.0638      0      22.6      10			
Silver      <0.00500      0.0100      0      0      0      0      10      R			
<b>Sample ID: 1309204-09D PDS</b> <b>Batch ID: 59647</b>			
SampType: <b>PDS</b> Run ID: <b>ICP-MS3_130926B</b>			
Analysis Date: <b>9/26/2013 6:33:00 PM</b>			
Prep Date: <b>9/26/2013</b>			
<b>Analyte</b> <b>Result</b> <b>RL</b> <b>SPK value</b> <b>Ref Val</b> <b>%REC</b> <b>LowLimit</b> <b>HighLimit</b> <b>%RPD</b> <b>RPDLimit</b> <b>Qual</b>			
Arsenic      0.215      0.00500      0.200      0.00328      106      80      120			
Barium      0.216      0.0100      0.200      0.0157      100      80      120			
Cadmium      0.166      0.00100      0.200      0      82.8      80      120			
Chromium      0.208      0.00500      0.200      0.0276      90.1      80      120			
Lead      0.203      0.00100      0.200      0      102      80      120			
Selenium      0.273      0.00500      0.200      0.0638      105      80      120			
Silver      0.168      0.00200      0.200      0      84.2      80      120			
<b>Sample ID: 1309204-09D MS</b> <b>Batch ID: 59647</b>			
SampType: <b>MS</b> Run ID: <b>ICP-MS3_130926B</b>			
Analysis Date: <b>9/26/2013 6:39:00 PM</b>			
Prep Date: <b>9/26/2013</b>			
<b>Analyte</b> <b>Result</b> <b>RL</b> <b>SPK value</b> <b>Ref Val</b> <b>%REC</b> <b>LowLimit</b> <b>HighLimit</b> <b>%RPD</b> <b>RPDLimit</b> <b>Qual</b>			
Arsenic      0.212      0.00500      0.200      0.00328      104      80      120			
Barium      0.208      0.0100      0.200      0.0157      96.0      80      120			
Cadmium      0.159      0.00100      0.200      0      79.4      80      120			
Calcium      391      0.300      5.00      399      -162      80      120			
Chromium      0.202      0.00500      0.200      0.0276      87.4      80      120			
Lead      0.200      0.00100      0.200      0      100      80      120			
Magnesium      224      0.300      5.00      229      -92.0      80      120			
Potassium      52.5      0.300      5.00      48.7      76.0      80      120			
Selenium      0.272      0.00500      0.200      0.0638      104      80      120			

**Qualifiers:**    B Analyte detected in the associated Method Blank  
                   J Analyte detected between MDL and RL  
                   ND Not Detected at the Method Detection Limit  
                   RL Reporting Limit  
                   J Analyte detected between SDL and RL

DF Dilution Factor  
        MDL Method Detection Limit  
        R RPD outside accepted control limits  
        S Spike Recovery outside control limits  
        N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** ICP-MS3\_130926B

Sample ID: 1309204-09D MS	Batch ID: 59647	TestNo: SW6020A			Units:	mg/L				
SampType: MS	Run ID: ICP-MS3_130926B	Analysis Date: 9/26/2013 6:39:00 PM			Prep Date:	9/26/2013				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.161	0.00200	0.200	0	80.6	80	120			
Sodium	2030	0.300	5.00	2100	-1460	80	120			S

Sample ID: 1309204-09D MSD	Batch ID: 59647	TestNo: SW6020A			Units:	mg/L				
SampType: MSD	Run ID: ICP-MS3_130926B	Analysis Date: 9/26/2013 6:44:00 PM			Prep Date:	9/26/2013				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.204	0.00500	0.200	0.00328	101	80	120	3.65	20	
Barium	0.202	0.0100	0.200	0.0157	92.9	80	120	3.03	20	
Cadmium	0.153	0.00100	0.200	0	76.4	80	120	3.92	20	S
Calcium	398	0.300	5.00	399	-18.0	80	120	1.82	20	S
Chromium	0.199	0.00500	0.200	0.0276	85.8	80	120	1.59	20	
Lead	0.191	0.00100	0.200	0	95.7	80	120	4.54	20	
Magnesium	228	0.300	5.00	229	-4.00	80	120	1.95	20	S
Potassium	53.0	0.300	5.00	48.7	84.6	80	120	0.815	20	
Selenium	0.263	0.00500	0.200	0.0638	99.8	80	120	3.43	20	
Silver	0.163	0.00200	0.200	0	81.6	80	120	1.11	20	
Sodium	2080	0.300	5.00	2100	-540	80	120	2.24	20	S

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** ICP-MS3\_130926B

Sample ID:	ICV1-130926	Batch ID:	R68870	TestNo:	SW6020A		Units:	mg/L			
SampType:	ICV	Run ID:	ICP-MS3_130926B	Analysis Date: 9/26/2013 2:19:00 PM			Prep Date:				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic		0.0995	0.00500	0.100	0	99.5	90	110			
Barium		0.0955	0.0100	0.100	0	95.5	90	110			
Cadmium		0.0968	0.00100	0.100	0	96.8	90	110			
Calcium		2.40	0.300	2.50	0	95.8	90	110			
Chromium		0.0970	0.00500	0.100	0	97.0	90	110			
Lead		0.0968	0.00100	0.100	0	96.8	90	110			
Magnesium		2.37	0.300	2.50	0	94.8	90	110			
Potassium		2.44	0.300	2.50	0	97.8	90	110			
Selenium		0.0990	0.00500	0.100	0	99.0	90	110			
Silver		0.0972	0.00200	0.100	0	97.2	90	110			
Sodium		2.37	0.300	2.50	0	95.0	90	110			
Sample ID:	CCV1-130926	Batch ID:	R68870	TestNo:	SW6020A		Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS3_130926B	Analysis Date: 9/26/2013 4:32:00 PM			Prep Date:				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic		0.192	0.00500	0.200	0	96.1	90	110			
Barium		0.191	0.0100	0.200	0	95.4	90	110			
Cadmium		0.188	0.00100	0.200	0	93.8	90	110			
Calcium		5.06	0.300	5.00	0	101	90	110			
Chromium		0.186	0.00500	0.200	0	93.1	90	110			
Lead		0.189	0.00100	0.200	0	94.6	90	110			
Magnesium		5.06	0.300	5.00	0	101	90	110			
Potassium		5.36	0.300	5.00	0	107	90	110			
Selenium		0.194	0.00500	0.200	0	96.8	90	110			
Silver		0.194	0.00200	0.200	0	96.8	90	110			
Sodium		4.93	0.300	5.00	0	98.6	90	110			
Sample ID:	CCV2-130926	Batch ID:	R68870	TestNo:	SW6020A		Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS3_130926B	Analysis Date: 9/26/2013 7:02:00 PM			Prep Date:				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic		0.212	0.00500	0.200	0	106	90	110			
Barium		0.201	0.0100	0.200	0	100	90	110			
Cadmium		0.199	0.00100	0.200	0	99.4	90	110			
Calcium		5.04	0.300	5.00	0	101	90	110			
Chromium		0.200	0.00500	0.200	0	100	90	110			
Lead		0.201	0.00100	0.200	0	100	90	110			
Magnesium		4.82	0.300	5.00	0	96.4	90	110			
Potassium		5.39	0.300	5.00	0	108	90	110			
Selenium		0.207	0.00500	0.200	0	103	90	110			

**Qualifiers:**

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** ICP-MS3\_130926B

Sample ID: CCV2-130926	Batch ID: R68870	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS3_130926B	Analysis Date: 9/26/2013 7:02:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.200	0.00200	0.200	0	99.8	90	110			
Sodium	4.94	0.300	5.00	0	98.7	90	110			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** ICP-MS3\_131002B

The QC data in batch 59692 applies to the following samples: 1309209-02E, 1309209-03E

Sample ID: MB-59692	Batch ID: 59692	TestNo: SW6020A	Units: mg/L							
SampType: MBLK	Run ID: ICP-MS3_131002B	Analysis Date: 10/2/2013 7:54:00 PM	Prep Date: 9/27/2013							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Lead	<0.000300	0.00100								
Magnesium	<0.100	0.300								
Potassium	<0.100	0.300								
Selenium	<0.00200	0.00500								
Silver	<0.00100	0.00200								
Sodium	<0.100	0.300								

Sample ID: LCS-59692	Batch ID: 59692	TestNo: SW6020A	Units: mg/L							
SampType: LCS	Run ID: ICP-MS3_131002B	Analysis Date: 10/2/2013 8:00:00 PM	Prep Date: 9/27/2013							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.201	0.00500	0.200	0	101	80	120			
Barium	0.196	0.0100	0.200	0	97.9	80	120			
Cadmium	0.196	0.00100	0.200	0	98.2	80	120			
Calcium	5.04	0.300	5.00	0	101	80	120			
Chromium	0.196	0.00500	0.200	0	98.2	80	120			
Lead	0.202	0.00100	0.200	0	101	80	120			
Magnesium	4.87	0.300	5.00	0	97.3	80	120			
Potassium	5.17	0.300	5.00	0	103	80	120			
Selenium	0.204	0.00500	0.200	0	102	80	120			
Silver	0.203	0.00200	0.200	0	101	80	120			
Sodium	4.78	0.300	5.00	0	95.7	80	120			

Sample ID: LCSD-59692	Batch ID: 59692	TestNo: SW6020A	Units: mg/L							
SampType: LCSD	Run ID: ICP-MS3_131002B	Analysis Date: 10/2/2013 8:06:00 PM	Prep Date: 9/27/2013							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.203	0.00500	0.200	0	102	80	120	0.890	20	
Barium	0.199	0.0100	0.200	0	99.6	80	120	1.67	20	
Cadmium	0.198	0.00100	0.200	0	99.0	80	120	0.862	20	
Calcium	5.13	0.300	5.00	0	103	80	120	1.81	20	
Chromium	0.199	0.00500	0.200	0	99.6	80	120	1.41	20	
Lead	0.203	0.00100	0.200	0	101	80	120	0.396	20	
Magnesium	4.91	0.300	5.00	0	98.2	80	120	0.920	20	
Potassium	5.17	0.300	5.00	0	103	80	120	0.019	20	

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	DF Dilution Factor
	J Analyte detected between MDL and RL	MDL Method Detection Limit
	ND Not Detected at the Method Detection Limit	R RPD outside accepted control limits
	RL Reporting Limit	S Spike Recovery outside control limits
	J Analyte detected between SDL and RL	N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** ICP-MS3\_131002B

Sample ID: <b>LCSD-59692</b>	Batch ID: <b>59692</b>	TestNo: <b>SW6020A</b>	Units: <b>mg/L</b>
SampType: <b>LCSD</b>	Run ID: <b>ICP-MS3_131002B</b>	Analysis Date: <b>10/2/2013 8:06:00 PM</b>	Prep Date: <b>9/27/2013</b>
<b>Analyte</b> <b>Result</b> <b>RL</b> <b>SPK value</b> <b>Ref Val</b> <b>%REC</b> <b>LowLimit</b> <b>HighLimit</b> <b>%RPD</b> <b>RPDLimit</b> <b>Qual</b>			
Selenium      0.207      0.00500      0.200      0      103      80      120      1.51      20			
Silver      0.205      0.00200      0.200      0      103      80      120      1.27      20			
Sodium      4.85      0.300      5.00      0      96.9      80      120      1.27      20			
<b>Sample ID: 1309204-09E SD</b> <b>Batch ID: 59692</b>			
SampType: <b>SD</b> Run ID: <b>ICP-MS3_131002B</b>			
Analysis Date: <b>10/2/2013 8:24:00 PM</b>			
Prep Date: <b>9/27/2013</b>			
<b>Analyte</b> <b>Result</b> <b>RL</b> <b>SPK value</b> <b>Ref Val</b> <b>%REC</b> <b>LowLimit</b> <b>HighLimit</b> <b>%RPD</b> <b>RPDLimit</b> <b>Qual</b>			
Arsenic      <0.0100      0.0250      0      0.00339      0      10			
Barium      0.0162      0.0500      0      0.0169      0      4.17      10			
Cadmium      <0.00150      0.00500      0      0      0      10			
Chromium      0.0305      0.0250      0      0.0292      0      4.40      10			
Lead      <0.00150      0.00500      0      0      0      10			
Selenium      0.0513      0.0250      0      0.0643      0      22.5      10			
Silver      <0.00500      0.0100      0      0      0      10      R			
<b>Sample ID: 1309204-09E PDS</b> <b>Batch ID: 59692</b>			
SampType: <b>PDS</b> Run ID: <b>ICP-MS3_131002B</b>			
Analysis Date: <b>10/2/2013 9:06:00 PM</b>			
Prep Date: <b>9/27/2013</b>			
<b>Analyte</b> <b>Result</b> <b>RL</b> <b>SPK value</b> <b>Ref Val</b> <b>%REC</b> <b>LowLimit</b> <b>HighLimit</b> <b>%RPD</b> <b>RPDLimit</b> <b>Qual</b>			
Arsenic      0.204      0.00500      0.200      0.00339      100      80      120			
Barium      0.210      0.0100      0.200      0.0169      96.7      80      120			
Cadmium      0.162      0.00100      0.200      0      81.0      80      120			
Chromium      0.207      0.00500      0.200      0.0292      88.8      80      120			
Lead      0.204      0.00100      0.200      0      102      80      120			
Selenium      0.291      0.00500      0.200      0.0643      113      80      120			
Silver      0.163      0.00200      0.200      0      81.4      80      120			
<b>Sample ID: 1309204-09E MS</b> <b>Batch ID: 59692</b>			
SampType: <b>MS</b> Run ID: <b>ICP-MS3_131002B</b>			
Analysis Date: <b>10/2/2013 9:12:00 PM</b>			
Prep Date: <b>9/27/2013</b>			
<b>Analyte</b> <b>Result</b> <b>RL</b> <b>SPK value</b> <b>Ref Val</b> <b>%REC</b> <b>LowLimit</b> <b>HighLimit</b> <b>%RPD</b> <b>RPDLimit</b> <b>Qual</b>			
Arsenic      0.223      0.00500      0.200      0.00339      110      80      120			
Barium      0.220      0.0100      0.200      0.0169      102      80      120			
Cadmium      0.171      0.00100      0.200      0      85.4      80      120			
Calcium      407      0.300      5.00      412      -98.0      80      120			
Chromium      0.228      0.00500      0.200      0.0292      99.4      80      120			
Lead      0.216      0.00100      0.200      0      108      80      120			
Magnesium      226      0.300      5.00      229      -72.0      80      120			
Potassium      50.7      0.300      5.00      47.5      63.6      80      120			
Selenium      0.296      0.00500      0.200      0.0643      116      80      120			

**Qualifiers:**      B Analyte detected in the associated Method Blank  
                           J Analyte detected between MDL and RL  
                           ND Not Detected at the Method Detection Limit  
                           RL Reporting Limit  
                           J Analyte detected between SDL and RL

DF Dilution Factor  
                           MDL Method Detection Limit  
                           R RPD outside accepted control limits  
                           S Spike Recovery outside control limits  
                           N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** ICP-MS3\_131002B

Sample ID: 1309204-09E MS		Batch ID: 59692		TestNo: SW6020A		Units: mg/L				
SampType: MS	Run ID: ICP-MS3_131002B	Analysis Date: 10/2/2013 9:12:00 PM				Prep Date: 9/27/2013				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.170	0.00200	0.200	0	85.0	80	120			
Sodium	2100	0.300	5.00	2140	-640	80	120			S

Sample ID: 1309204-09E MSD		Batch ID: 59692		TestNo: SW6020A		Units: mg/L				
SampType: MSD	Run ID: ICP-MS3_131002B	Analysis Date: 10/2/2013 9:18:00 PM				Prep Date: 9/27/2013				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.220	0.00500	0.200	0.00339	108	80	120	1.31	20	
Barium	0.220	0.0100	0.200	0.0169	102	80	120	0.227	20	
Cadmium	0.166	0.00100	0.200	0	83.0	80	120	2.79	20	
Calcium	408	0.300	5.00	412	-86.0	80	120	0.147	20	S
Chromium	0.224	0.00500	0.200	0.0292	97.4	80	120	1.73	20	
Lead	0.214	0.00100	0.200	0	107	80	120	0.929	20	
Magnesium	225	0.300	5.00	229	-74.0	80	120	0.044	20	S
Potassium	49.9	0.300	5.00	47.5	47.4	80	120	1.61	20	S
Selenium	0.297	0.00500	0.200	0.0643	117	80	120	0.371	20	
Silver	0.167	0.00200	0.200	0	83.4	80	120	1.78	20	
Sodium	2090	0.300	5.00	2140	-880	80	120	0.572	20	S

**Qualifiers:**

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** ICP-MS3\_131002B

Sample ID: ICV1-131002	Batch ID: R68940	TestNo: SW6020A		Units:	mg/L					
SampType: ICV	Run ID: ICP-MS3_131002B	Analysis Date: 10/2/2013 2:10:00 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.0949	0.00500	0.100	0	94.9	90	110			
Barium	0.0931	0.0100	0.100	0	93.1	90	110			
Cadmium	0.0948	0.00100	0.100	0	94.8	90	110			
Calcium	2.30	0.300	2.50	0	92.2	90	110			
Chromium	0.0918	0.00500	0.100	0	91.8	90	110			
Lead	0.0938	0.00100	0.100	0	93.8	90	110			
Magnesium	2.31	0.300	2.50	0	92.2	90	110			
Potassium	2.33	0.300	2.50	0	93.2	90	110			
Selenium	0.100	0.00500	0.100	0	100	90	110			
Silver	0.0960	0.00200	0.100	0	96.0	90	110			
Sodium	2.26	0.300	2.50	0	90.6	90	110			

Sample ID: CCV2-131002	Batch ID: R68940	TestNo: SW6020A		Units:	mg/L					
SampType: CCV	Run ID: ICP-MS3_131002B	Analysis Date: 10/2/2013 6:47:00 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.202	0.00500	0.200	0	101	90	110			
Barium	0.197	0.0100	0.200	0	98.4	90	110			
Cadmium	0.201	0.00100	0.200	0	101	90	110			
Calcium	4.99	0.300	5.00	0	99.9	90	110			
Chromium	0.195	0.00500	0.200	0	97.6	90	110			
Lead	0.202	0.00100	0.200	0	101	90	110			
Magnesium	4.77	0.300	5.00	0	95.4	90	110			
Potassium	5.06	0.300	5.00	0	101	90	110			
Selenium	0.209	0.00500	0.200	0	104	90	110			
Silver	0.207	0.00200	0.200	0	104	90	110			
Sodium	4.82	0.300	5.00	0	96.4	90	110			

Sample ID: CCV3-131002	Batch ID: R68940	TestNo: SW6020A		Units:	mg/L					
SampType: CCV	Run ID: ICP-MS3_131002B	Analysis Date: 10/2/2013 10:12:00 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.202	0.00500	0.200	0	101	90	110			
Barium	0.193	0.0100	0.200	0	96.5	90	110			
Cadmium	0.195	0.00100	0.200	0	97.4	90	110			
Calcium	4.91	0.300	5.00	0	98.1	90	110			
Chromium	0.199	0.00500	0.200	0	99.4	90	110			
Lead	0.199	0.00100	0.200	0	99.4	90	110			
Magnesium	4.51	0.300	5.00	0	90.2	90	110			
Potassium	5.07	0.300	5.00	0	101	90	110			
Selenium	0.206	0.00500	0.200	0	103	90	110			

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	DF	Dilution Factor
	J	Analyte detected between MDL and RL	MDL	Method Detection Limit
	ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
	RL	Reporting Limit	S	Spike Recovery outside control limits
	J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** ICP-MS3\_131002B

Sample ID: CCV3-131002	Batch ID: R68940	TestNo: SW6020A	Units: mg/L							
SampType: CCV	Run ID: ICP-MS3_131002B	Analysis Date: 10/2/2013 10:12:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.201	0.00200	0.200	0	100	90	110			
Sodium	4.70	0.300	5.00	0	94.0	90	110			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS9\_131008B

The QC data in batch 59628 applies to the following samples: 1309209-02G, 1309209-03G

Sample ID: LCS-59628	Batch ID: 59628	TestNo:	SW8270D		Units:	mg/L				
SampType: LCS	Run ID: GCMS9_131008B		Analysis Date: 10/8/2013 10:38:00 PM			Prep Date:	9/25/2013			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4,5-Tetrachlorobenzene	0.0495	0.000800	0.0800	0	61.9	35	120			
1,2-Diphenylhydrazine	0.0290	0.000800	0.0400	0	72.6	55	115			
1-Methylnaphthalene	0.0278	0.000800	0.0400	0	69.6	45	125			N
2,4,5-Trichlorophenol	0.0292	0.000800	0.0400	0	72.9	50	110			
2,4,6-Trichlorophenol	0.0287	0.000800	0.0400	0	71.9	50	115			
2,4-Dichlorophenol	0.0289	0.000800	0.0400	0	72.2	50	105			
2,4-Dimethylphenol	0.0310	0.000800	0.0400	0	77.5	30	110			
2,4-Dinitrophenol	0.0325	0.00400	0.0400	0	81.4	15	140			
2,4-Dinitrotoluene	0.0316	0.000800	0.0400	0	79.0	50	120			
2,6-Dichlorophenol	0.0283	0.000800	0.0400	0	70.6	35	120			
2,6-Dinitrotoluene	0.0310	0.000800	0.0400	0	77.5	50	115			
2-Chloronaphthalene	0.0328	0.000800	0.0400	0	82.0	50	105			
2-Chlorophenol	0.0247	0.000800	0.0400	0	61.8	35	105			
2-Methylnaphthalene	0.0283	0.000800	0.0400	0	70.9	45	105			
2-Methylphenol	0.0315	0.000800	0.0400	0	78.8	40	110			
2-Nitroaniline	0.0310	0.000800	0.0400	0	77.6	50	115			
2-Nitrophenol	0.0290	0.000800	0.0400	0	72.6	40	115			
3,3'-Dichlorobenzidine	0.0331	0.00400	0.0400	0	82.8	20	110			
3-Nitroaniline	0.0338	0.000800	0.0400	0	84.4	20	125			
4,6-Dinitro-2-methylphenol	0.0300	0.00200	0.0400	0	74.9	40	130			
4-Bromophenyl phenyl ether	0.0309	0.000800	0.0400	0	77.2	50	115			
4-Chloro-3-methylphenol	0.0295	0.000800	0.0400	0	73.9	45	110			
4-Chloroaniline	0.0309	0.00200	0.0400	0	77.3	15	110			
4-Chlorophenyl phenyl ether	0.0296	0.000800	0.0400	0	74.1	50	110			
4-Methylphenol	0.0263	0.000800	0.0400	0	65.8	30	110			
4-Nitroaniline	0.0321	0.000800	0.0400	0	80.3	35	120			
4-Nitrophenol	0.0217	0.00400	0.0400	0	54.2	20	120			
Acenaphthene	0.0288	0.000800	0.0400	0	72.1	45	110			
Acenaphthylene	0.0289	0.000800	0.0400	0	72.2	50	105			
Acetophenone	0.0556	0.000800	0.0800	0	69.5	45	125			
Aniline	0.0220	0.000800	0.0400	0	55.0	10	140			
Anthracene	0.0313	0.000800	0.0400	0	78.2	55	110			
Benzidine	0.0204	0.00600	0.0400	0	50.9	20	125			
Benzo[a]anthracene	0.0303	0.000800	0.0400	0	75.8	55	110			
Benzo[a]pyrene	0.0311	0.000800	0.0400	0	77.6	55	110			
Benzo[b]fluoranthene	0.0324	0.000800	0.0400	0	80.9	45	120			
Benzo[g,h,i]perylene	0.0306	0.000800	0.0400	0	76.5	40	125			
Benzo[k]fluoranthene	0.0311	0.000800	0.0400	0	77.8	45	125			
Benzoic acid	0.0148	0.00600	0.0400	0	36.9	5	120			
Benzyl alcohol	0.0175	0.00200	0.0400	0	43.8	30	110			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS9\_131008B

Sample ID: LCS-59628	Batch ID: 59628	TestNo: SW8270D	Units: mg/L							
SampType: LCS	Run ID: GCMS9_131008B	Analysis Date: 10/8/2013 10:38:00 PM Prep Date: 9/25/2013								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Biphenyl	0.0271	0.000800	0.0400	0	67.7	45	125			
Bis(2-chloroethoxy)methane	0.0306	0.000800	0.0400	0	76.6	45	105			
Bis(2-chloroethyl)ether	0.0285	0.000800	0.0400	0	71.4	35	110			
Bis(2-chloroisopropyl)ether	0.0280	0.000800	0.0400	0	70.0	25	130			
Bis(2-ethylhexyl)phthalate	0.0334	0.00300	0.0400	0	83.5	40	125			
Butyl benzyl phthalate	0.0323	0.00600	0.0400	0	80.6	45	115			
Carbazole	0.0321	0.000800	0.0400	0	80.2	50	115			
Chrysene	0.0294	0.000800	0.0400	0	73.6	55	110			
Dibenz[a,h]anthracene	0.0310	0.000800	0.0400	0	77.5	40	125			
Dibenzofuran	0.0289	0.000800	0.0400	0	72.4	55	105			
Diethyl phthalate	0.0327	0.00600	0.0400	0	81.7	40	120			
Dimethyl phthalate	0.0322	0.00600	0.0400	0	80.6	25	125			
Di-n-butyl phthalate	0.0324	0.00600	0.0400	0	81.1	55	115			
Di-n-octyl phthalate	0.0324	0.00600	0.0400	0	81.1	35	135			
Fluoranthene	0.0315	0.000800	0.0400	0	78.7	55	115			
Fluorene	0.0302	0.000800	0.0400	0	75.5	50	110			
Hexachlorobenzene	0.0300	0.000800	0.0400	0	74.9	50	110			
Hexachlorobutadiene	0.0224	0.000800	0.0400	0	56.0	25	105			
Hexachlorocyclopentadiene	0.0223	0.00200	0.0400	0	55.8	25	125			
Hexachloroethane	0.0235	0.000800	0.0400	0	58.6	30	100			
Indeno[1,2,3-cd]pyrene	0.0310	0.000800	0.0400	0	77.5	45	125			
Isophorone	0.0307	0.000800	0.0400	0	76.8	50	110			
Naphthalene	0.0279	0.000800	0.0400	0	69.6	40	100			
Nitrobenzene	0.0306	0.000800	0.0400	0	76.5	45	110			
N-Nitrosodimethylamine	0.0159	0.000800	0.0400	0	39.8	25	110			
N-Nitrosodi-n-propylamine	0.0328	0.000800	0.0400	0	82.0	35	130			
N-Nitrosodiphenylamine	0.0746	0.000800	0.0800	0	93.3	50	110			
Pentachlorobenzene	0.0528	0.000800	0.0800	0	66.0	35	120			
Pentachlorophenol	0.0315	0.000800	0.0400	0	78.7	40	115			
Phenanthrene	0.0295	0.000800	0.0400	0	73.7	50	115			
Phenol	0.0171	0.000800	0.0400	0	42.6	20	115			
Pyrene	0.0308	0.000800	0.0400	0	77.1	50	130			
Pyridine	0.0143	0.00200	0.0400	0	35.8	20	110			
Surr: 2,4,6-Tribromophenol	71.8		80.00		89.8	42	124			
Surr: 2-Fluorobiphenyl	66.4		80.00		83.0	50	110			
Surr: 2-Fluorophenol	50.4		80.00		63.0	20	110			
Surr: 4-Terphenyl-d14	68.8		80.00		86.0	51	135			
Surr: Nitrobenzene-d5	64.2		80.00		80.2	41	110			
Surr: Phenol-d5	41.2		80.00		51.5	20	115			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS9\_131008B

Sample ID: 1309204-09GMS	Batch ID: 59628	TestNo:	SW8270D	Units:	mg/L					
SampType: MS	Run ID: GCMS9_131008B	Analysis Date: 10/8/2013 11:02:00 PM			Prep Date: 9/25/2013					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4,5-Tetrachlorobenzene	0.0620	0.000800	0.0800	0	77.4	35	120			
1,2-Diphenylhydrazine	0.0341	0.000800	0.0400	0	85.2	55	115			
1-Methylnaphthalene	0.0324	0.000800	0.0400	0	81.1	45	125			N
2,4,5-Trichlorophenol	0.0330	0.000800	0.0400	0	82.5	50	110			
2,4,6-Trichlorophenol	0.0318	0.000800	0.0400	0	79.6	50	115			
2,4-Dichlorophenol	0.0327	0.000800	0.0400	0	81.8	50	105			
2,4-Dimethylphenol	0.0363	0.000800	0.0400	0	90.8	30	110			
2,4-Dinitrophenol	0.0360	0.00400	0.0400	0	90.0	15	140			
2,4-Dinitrotoluene	0.0365	0.000800	0.0400	0	91.2	50	120			
2,6-Dichlorophenol	0.0316	0.000800	0.0400	0	79.1	35	120			
2,6-Dinitrotoluene	0.0373	0.000800	0.0400	0	93.2	50	115			
2-Chloronaphthalene	0.0382	0.000800	0.0400	0	95.4	50	105			
2-Chlorophenol	0.0285	0.000800	0.0400	0	71.2	35	105			
2-Methylnaphthalene	0.0330	0.000800	0.0400	0	82.5	45	105			
2-Methylphenol	0.0373	0.000800	0.0400	0	93.2	40	110			
2-Nitroaniline	0.0365	0.000800	0.0400	0	91.4	50	115			
2-Nitrophenol	0.0336	0.000800	0.0400	0	84.0	40	115			
3,3'-Dichlorobenzidine	0.0392	0.00400	0.0400	0	97.9	20	110			
3-Nitroaniline	0.0394	0.000800	0.0400	0	98.5	20	125			
4,6-Dinitro-2-methylphenol	0.0341	0.00200	0.0400	0	85.3	40	130			
4-Bromophenyl phenyl ether	0.0363	0.000800	0.0400	0	90.8	50	115			
4-Chloro-3-methylphenol	0.0348	0.000800	0.0400	0	86.9	45	110			
4-Chloroaniline	0.0361	0.00200	0.0400	0	90.3	15	110			
4-Chlorophenyl phenyl ether	0.0347	0.000800	0.0400	0	86.8	50	110			
4-Methylphenol	0.0310	0.000800	0.0400	0	77.5	30	110			
4-Nitroaniline	0.0366	0.000800	0.0400	0	91.6	35	120			
4-Nitrophenol	0.0223	0.00400	0.0400	0	55.6	20	120			
Acenaphthene	0.0337	0.000800	0.0400	0	84.4	45	110			
Acenaphthylene	0.0341	0.000800	0.0400	0	85.2	50	105			
Acetophenone	0.0642	0.000800	0.0800	0	80.2	45	125			
Aniline	0.0261	0.000800	0.0400	0	65.2	10	140			
Anthracene	0.0364	0.000800	0.0400	0	91.1	55	110			
Benzidine	0.0238	0.00600	0.0400	0	59.6	20	125			
Benzo[a]anthracene	0.0360	0.000800	0.0400	0	90.1	55	110			
Benzo[a]pyrene	0.0375	0.000800	0.0400	0	93.6	55	110			
Benzo[b]fluoranthene	0.0393	0.000800	0.0400	0	98.3	45	120			
Benzo[g,h,i]perylene	0.0364	0.000800	0.0400	0	90.9	40	125			
Benzo[k]fluoranthene	0.0359	0.000800	0.0400	0	89.8	45	125			
Benzoic acid	0.0180	0.00600	0.0400	0	45.1	5	120			
Benzyl alcohol	0.0217	0.00200	0.0400	0	54.2	30	110			
Biphenyl	0.0320	0.000800	0.0400	0	79.9	45	125			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS9\_131008B

Sample ID: 1309204-09GMS	Batch ID: 59628	TestNo:	SW8270D	Units:	mg/L					
SampType: MS	Run ID: GCMS9_131008B	Analysis Date: 10/8/2013 11:02:00 PM			Prep Date: 9/25/2013					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bis(2-chloroethoxy)methane	0.0356	0.000800	0.0400	0	89.0	45	105			
Bis(2-chloroethyl)ether	0.0328	0.000800	0.0400	0	81.9	35	110			
Bis(2-chloroisopropyl)ether	0.0320	0.000800	0.0400	0	80.1	25	130			
Bis(2-ethylhexyl)phthalate	0.0389	0.00300	0.0400	0	97.2	40	125			
Butyl benzyl phthalate	0.0387	0.00600	0.0400	0	96.7	45	115			
Carbazole	0.0372	0.000800	0.0400	0	92.9	50	115			
Chrysene	0.0347	0.000800	0.0400	0	86.6	55	110			
Dibenz[a,h]anthracene	0.0369	0.000800	0.0400	0	92.4	40	125			
Dibenzo furan	0.0340	0.000800	0.0400	0	85.0	55	105			
Diethyl phthalate	0.0376	0.00600	0.0400	0	93.9	40	120			
Dimethyl phthalate	0.0372	0.00600	0.0400	0	93.0	25	125			
Di-n-butyl phthalate	0.0383	0.00600	0.0400	0	95.8	55	115			
Di-n-octyl phthalate	0.0386	0.00600	0.0400	0	96.6	35	135			
Fluoranthene	0.0368	0.000800	0.0400	0	92.0	55	115			
Fluorene	0.0354	0.000800	0.0400	0	88.5	50	110			
Hexachlorobenzene	0.0355	0.000800	0.0400	0	88.8	50	110			
Hexachlorobutadiene	0.0267	0.000800	0.0400	0	66.8	25	105			
Hexachlorocyclopentadiene	0.0264	0.00200	0.0400	0	65.9	25	125			
Hexachloroethane	0.0248	0.000800	0.0400	0	62.0	30	100			
Indeno[1,2,3-cd]pyrene	0.0369	0.000800	0.0400	0	92.4	45	125			
Isophorone	0.0353	0.000800	0.0400	0	88.3	50	110			
Naphthalene	0.0317	0.000800	0.0400	0	79.2	40	100			
Nitrobenzene	0.0350	0.000800	0.0400	0	87.6	45	110			
N-Nitrosodimethylamine	0.0188	0.000800	0.0400	0	47.0	25	110			
N-Nitrosodi-n-propylamine	0.0375	0.000800	0.0400	0	93.8	35	130			
N-Nitrosodiphenylamine	0.0861	0.000800	0.0800	0	108	50	110			
Pentachlorobenzene	0.0663	0.000800	0.0800	0	82.8	35	120			
Pentachlorophenol	0.0359	0.000800	0.0400	0	89.8	40	115			
Phenanthrene	0.0344	0.000800	0.0400	0	85.9	50	115			
Phenol	0.0209	0.000800	0.0400	0	52.3	20	115			
Pyrene	0.0368	0.000800	0.0400	0	92.0	50	130			
Pyridine	0.0178	0.00200	0.0400	0	44.4	20	110			
Surr: 2,4,6-Tribromophenol	81.4		80.00		102	42	124			
Surr: 2-Fluorobiphenyl	78.2		80.00		97.8	50	110			
Surr: 2-Fluorophenol	57.4		80.00		71.8	20	110			
Surr: 4-Terphenyl-d14	83.6		80.00		104	51	135			
Surr: Nitrobenzene-d5	74.6		80.00		93.3	41	110			
Surr: Phenol-d5	51.4		80.00		64.2	20	115			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS9\_131008B

Sample ID: 1309204-09GMSD	Batch ID: 59628	TestNo: SW8270D		Units: mg/L						
SampType: MSD	Run ID: GCMS9_131008B	Analysis Date: 10/8/2013 11:25:00 PM			Prep Date: 9/25/2013					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4,5-Tetrachlorobenzene	0.0622	0.000800	0.0800	0	77.7	35	120	0.322	30	
1,2-Diphenylhydrazine	0.0341	0.000800	0.0400	0	85.2	55	115	0.058	30	
1-Methylnaphthalene	0.0323	0.000800	0.0400	0	80.7	45	125	0.494	30	N
2,4,5-Trichlorophenol	0.0338	0.000800	0.0400	0	84.6	50	110	2.57	30	
2,4,6-Trichlorophenol	0.0332	0.000800	0.0400	0	83.0	50	115	4.24	30	
2,4-Dichlorophenol	0.0328	0.000800	0.0400	0	82.1	50	105	0.427	30	
2,4-Dimethylphenol	0.0360	0.000800	0.0400	0	90.0	30	110	0.885	30	
2,4-Dinitrophenol	0.0388	0.00400	0.0400	0	96.9	15	140	7.38	30	
2,4-Dinitrotoluene	0.0383	0.000800	0.0400	0	95.8	50	120	4.97	30	
2,6-Dichlorophenol	0.0317	0.000800	0.0400	0	79.3	35	120	0.253	30	
2,6-Dinitrotoluene	0.0383	0.000800	0.0400	0	95.8	50	115	2.86	30	
2-Chloronaphthalene	0.0393	0.000800	0.0400	0	98.2	50	105	2.84	30	
2-Chlorophenol	0.0278	0.000800	0.0400	0	69.4	35	105	2.49	30	
2-Methylnaphthalene	0.0328	0.000800	0.0400	0	82.0	45	105	0.608	30	
2-Methylphenol	0.0366	0.000800	0.0400	0	91.5	40	110	1.84	30	
2-Nitroaniline	0.0381	0.000800	0.0400	0	95.2	50	115	4.08	30	
2-Nitrophenol	0.0339	0.000800	0.0400	0	84.8	40	115	1.01	30	
3,3'-Dichlorobenzidine	0.0410	0.00400	0.0400	0	103	20	110	4.59	30	
3-Nitroaniline	0.0410	0.000800	0.0400	0	103	20	125	4.03	30	
4,6-Dinitro-2-methylphenol	0.0353	0.00200	0.0400	0	88.2	40	130	3.46	30	
4-Bromophenyl phenyl ether	0.0369	0.000800	0.0400	0	92.2	50	115	1.53	30	
4-Chloro-3-methylphenol	0.0344	0.000800	0.0400	0	85.9	45	110	1.16	30	
4-Chloroaniline	0.0365	0.00200	0.0400	0	91.2	15	110	0.937	30	
4-Chlorophenyl phenyl ether	0.0357	0.000800	0.0400	0	89.2	50	110	2.78	30	
4-Methylphenol	0.0305	0.000800	0.0400	0	76.2	30	110	1.63	30	
4-Nitroaniline	0.0384	0.000800	0.0400	0	95.9	35	120	4.59	30	
4-Nitrophenol	0.0253	0.00400	0.0400	0	63.4	20	120	12.9	30	
Acenaphthene	0.0342	0.000800	0.0400	0	85.6	45	110	1.47	30	
Acenaphthylene	0.0346	0.000800	0.0400	0	86.5	50	105	1.51	30	
Acetophenone	0.0623	0.000800	0.0800	0	77.8	45	125	3.07	30	
Aniline	0.0263	0.000800	0.0400	0	65.8	10	140	0.915	30	
Anthracene	0.0376	0.000800	0.0400	0	94.1	55	110	3.19	30	
Benzidine	0.0259	0.00600	0.0400	0	64.8	20	125	8.28	30	
Benzo[a]anthracene	0.0370	0.000800	0.0400	0	92.4	55	110	2.52	30	
Benzo[a]pyrene	0.0385	0.000800	0.0400	0	96.2	55	110	2.74	30	
Benzo[b]fluoranthene	0.0378	0.000800	0.0400	0	94.6	45	120	3.89	30	
Benzo[g,h,i]perylene	0.0373	0.000800	0.0400	0	93.2	40	125	2.50	30	
Benzo[k]fluoranthene	0.0397	0.000800	0.0400	0	99.2	45	125	10.0	30	
Benzoic acid	0.0233	0.00600	0.0400	0	58.2	5	120	25.4	30	
Benzyl alcohol	0.0223	0.00200	0.0400	0	55.8	30	110	2.82	30	
Biphenyl	0.0322	0.000800	0.0400	0	80.5	45	125	0.748	30	

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS9\_131008B

Sample ID: 1309204-09GMSD	Batch ID: 59628	TestNo: SW8270D		Units: mg/L						
SampType: MSD	Run ID: GCMS9_131008B	Analysis Date: 10/8/2013 11:25:00 PM			Prep Date: 9/25/2013					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bis(2-chloroethoxy)methane	0.0354	0.000800	0.0400	0	88.4	45	105	0.620	30	
Bis(2-chloroethyl)ether	0.0326	0.000800	0.0400	0	81.5	35	110	0.490	30	
Bis(2-chloroisopropyl)ether	0.0314	0.000800	0.0400	0	78.4	25	130	2.08	30	
Bis(2-ethylhexyl)phthalate	0.0406	0.00300	0.0400	0	102	40	125	4.38	30	
Butyl benzyl phthalate	0.0391	0.00600	0.0400	0	97.7	45	115	1.08	30	
Carbazole	0.0382	0.000800	0.0400	0	95.6	50	115	2.81	30	
Chrysene	0.0351	0.000800	0.0400	0	87.8	55	110	1.26	30	
Dibenz[a,h]anthracene	0.0380	0.000800	0.0400	0	95.0	40	125	2.78	30	
Dibenzo furan	0.0346	0.000800	0.0400	0	86.5	55	105	1.75	30	
Diethyl phthalate	0.0390	0.00600	0.0400	0	97.4	40	120	3.66	30	
Dimethyl phthalate	0.0383	0.00600	0.0400	0	95.6	25	125	2.86	30	
Di-n-butyl phthalate	0.0392	0.00600	0.0400	0	98.1	55	115	2.27	30	
Di-n-octyl phthalate	0.0407	0.00600	0.0400	0	102	35	135	5.34	30	
Fluoranthene	0.0376	0.000800	0.0400	0	94.0	55	115	2.10	30	
Fluorene	0.0360	0.000800	0.0400	0	90.1	50	110	1.74	30	
Hexachlorobenzene	0.0361	0.000800	0.0400	0	90.2	50	110	1.51	30	
Hexachlorobutadiene	0.0276	0.000800	0.0400	0	69.0	25	105	3.24	30	
Hexachlorocyclopentadiene	0.0282	0.00200	0.0400	0	70.6	25	125	6.89	30	
Hexachloroethane	0.0271	0.000800	0.0400	0	67.7	30	100	8.87	30	
Indeno[1,2,3-cd]pyrene	0.0379	0.000800	0.0400	0	94.8	45	125	2.57	30	
Isophorone	0.0359	0.000800	0.0400	0	89.8	50	110	1.68	30	
Naphthalene	0.0320	0.000800	0.0400	0	80.1	40	100	1.07	30	
Nitrobenzene	0.0351	0.000800	0.0400	0	87.7	45	110	0.114	30	
N-Nitrosodimethylamine	0.0198	0.000800	0.0400	0	49.4	25	110	4.98	30	
N-Nitrosodi-n-propylamine	0.0372	0.000800	0.0400	0	93.0	35	130	0.910	30	
N-Nitrosodiphenylamine	0.0878	0.000800	0.0800	0	110	50	110	2.00	30	
Pentachlorobenzene	0.0657	0.000800	0.0800	0	82.1	35	120	0.879	30	
Pentachlorophenol	0.0377	0.000800	0.0400	0	94.2	40	115	4.84	30	
Phenanthrene	0.0345	0.000800	0.0400	0	86.2	50	115	0.349	30	
Phenol	0.0212	0.000800	0.0400	0	53.0	20	115	1.33	30	
Pyrene	0.0370	0.000800	0.0400	0	92.6	50	130	0.704	30	
Pyridine	0.0190	0.00200	0.0400	0	47.5	20	110	6.63	30	
Surr: 2,4,6-Tribromophenol	84.0		80.00		105	42	124	0	0	
Surr: 2-Fluorobiphenyl	78.6		80.00		98.3	50	110	0	0	
Surr: 2-Fluorophenol	59.2		80.00		74.0	20	110	0	0	
Surr: 4-Terphenyl-d14	83.6		80.00		104	51	135	0	0	
Surr: Nitrobenzene-d5	74.4		80.00		93.0	41	110	0	0	
Surr: Phenol-d5	53.0		80.00		66.2	20	115	0	0	

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS9\_131008B

Sample ID: MB-59628	Batch ID: 59628	TestNo: SW8270D	Units: mg/L							
SampType: MBLK	Run ID: GCMS9_131008B	Analysis Date: 10/9/2013 12:12:00 AM Prep Date: 9/25/2013								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4,5-Tetrachlorobenzene	<0.000200	0.000800								N
1,2-Diphenylhydrazine	<0.000200	0.000800								
1-Methylnaphthalene	<0.000200	0.000800								
2,4,5-Trichlorophenol	<0.000200	0.000800								
2,4,6-Trichlorophenol	<0.000200	0.000800								
2,4-Dichlorophenol	<0.000200	0.000800								
2,4-Dimethylphenol	<0.000200	0.000800								
2,4-Dinitrophenol	<0.00100	0.00400								
2,4-Dinitrotoluene	<0.000200	0.000800								
2,6-Dichlorophenol	<0.000200	0.000800								
2,6-Dinitrotoluene	<0.000200	0.000800								
2-Chloronaphthalene	<0.000200	0.000800								
2-Chlorophenol	<0.000200	0.000800								
2-Methylnaphthalene	<0.000200	0.000800								
2-Methylphenol	<0.000200	0.000800								
2-Nitroaniline	<0.000200	0.000800								
2-Nitrophenol	<0.000200	0.000800								
3,3'-Dichlorobenzidine	<0.00100	0.00400								
3-Nitroaniline	<0.000200	0.000800								
4,6-Dinitro-2-methylphenol	<0.000600	0.00200								
4-Bromophenyl phenyl ether	<0.000200	0.000800								
4-Chloro-3-methylphenol	<0.000200	0.000800								
4-Chloroaniline	<0.000600	0.00200								
4-Chlorophenyl phenyl ether	<0.000200	0.000800								
4-Methylphenol	<0.000200	0.000800								
4-Nitroaniline	<0.000200	0.000800								
4-Nitrophenol	<0.00100	0.00400								
Acenaphthene	<0.000200	0.000800								
Acenaphthylene	<0.000200	0.000800								
Acetophenone	<0.000200	0.000800								
Aniline	<0.000200	0.000800								
Anthracene	<0.000200	0.000800								
Benzidine	<0.00200	0.00600								
Benzo[a]anthracene	<0.000200	0.000800								
Benzo[a]pyrene	<0.000200	0.000800								
Benzo[b]fluoranthene	<0.000200	0.000800								
Benzo[g,h,i]perylene	<0.000200	0.000800								
Benzo[k]fluoranthene	<0.000200	0.000800								
Benzoic acid	<0.00200	0.00600								
Benzyl alcohol	<0.000600	0.00200								
Biphenyl	<0.000200	0.000800								

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS9\_131008B

Sample ID: MB-59628	Batch ID: 59628	TestNo: SW8270D	Units: mg/L							
SampType: MBLK	Run ID: GCMS9_131008B	Analysis Date: 10/9/2013 12:12:00 AM Prep Date: 9/25/2013								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bis(2-chloroethoxy)methane	<0.000200	0.000800								
Bis(2-chloroethyl)ether	<0.000200	0.000800								
Bis(2-chloroisopropyl)ether	<0.000200	0.000800								
Bis(2-ethylhexyl)phthalate	0.00116	0.00300								
Butyl benzyl phthalate	<0.00200	0.00600								
Carbazole	<0.000200	0.000800								
Chrysene	<0.000200	0.000800								
Dibenz[a,h]anthracene	<0.000200	0.000800								
Dibenzo furan	<0.000200	0.000800								
Diethyl phthalate	<0.00200	0.00600								
Dimethyl phthalate	<0.00200	0.00600								
Di-n-butyl phthalate	<0.00200	0.00600								
Di-n-octyl phthalate	<0.00200	0.00600								
Fluoranthene	<0.000200	0.000800								
Fluorene	<0.000200	0.000800								
Hexachlorobenzene	<0.000200	0.000800								
Hexachlorobutadiene	<0.000200	0.000800								
Hexachlorocyclopentadiene	<0.000600	0.00200								
Hexachloroethane	<0.000200	0.000800								
Indeno[1,2,3-cd]pyrene	<0.000200	0.000800								
Isophorone	<0.000200	0.000800								
Naphthalene	<0.000200	0.000800								
Nitrobenzene	<0.000200	0.000800								
N-Nitrosodimethylamine	<0.000200	0.000800								
N-Nitrosodi-n-propylamine	<0.000100	0.000800								
N-Nitrosodiphenylamine	<0.000200	0.000800								
Pentachlorobenzene	<0.000200	0.000800								
Pentachlorophenol	<0.000200	0.000800								
Phenanthrene	<0.000200	0.000800								
Phenol	<0.000200	0.000800								
Pyrene	<0.000200	0.000800								
Pyridine	<0.000800	0.00200								
Surr: 2,4,6-Tribromophenol	78.2	80.00		97.8	42	124				
Surr: 2-Fluorobiphenyl	78.4	80.00		98.0	50	110				
Surr: 2-Fluorophenol	48.0	80.00		60.0	20	110				
Surr: 4-Terphenyl-d14	80.2	80.00		100	51	135				
Surr: Nitrobenzene-d5	72.8	80.00		91.0	41	110				
Surr: Phenol-d5	36.4	80.00		45.5	20	115				

**Qualifiers:**

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS9\_131008B

Sample ID: LCS-59628	Batch ID: 59628	TestNo: SW8270D		Units: mg/L
SampType: LCS	Run ID: GCMS9_131008B	Analysis Date: 10/8/2013 10:38:00 PM Prep Date: 9/25/2013		
Analyte	Result	RL	SPK value	Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
1-Chloronaphthalene	0.0292	0.000800	0.0400	0 73.1 45 125 N
1-Naphthylamine	0.0264	0.000800	0.0400	0 66.0 45 125
2-Naphthylamine	0.0274	0.000800	0.0400	0 68.5 45 125
2-Picoline	0.0207	0.000800	0.0400	0 51.8 45 125
3-Methylcholanthrene	0.0325	0.000800	0.0400	0 81.2 45 125
4-Aminobiphenyl	0.0277	0.000800	0.0400	0 69.2 45 125
7,12-Dimethylbenz(a)anthracene	0.0327	0.000800	0.0400	0 81.7 45 125
Dibenz(a,j)acridine	0.0353	0.00400	0.0400	0 88.2 45 125 N
Dimethylphenethylamine	0.00204	0.00600	0.0400	0 5.10 45 125 S
Diphenylamine	0.0600	0.000800	0.0800	0 75.0 45 125
Ethyl methanesulfonate	0.0298	0.000800	0.0400	0 74.6 45 125
Methyl methanesulfonate	0.0206	0.000800	0.0400	0 51.4 45 125
N-Nitrosopiperidine	0.0334	0.000800	0.0400	0 83.6 45 125
p-Dimethylaminoazobenzene	0.0327	0.000800	0.0400	0 81.7 45 125 N
Pentachloronitrobenzene	0.0367	0.000800	0.0400	0 91.7 45 125
Phenacetin	0.0377	0.000800	0.0400	0 94.4 45 125
Pronamide	0.0351	0.000800	0.0400	0 87.9 45 125

Sample ID: 1309204-09GMS	Batch ID: 59628	TestNo: SW8270D		Units: mg/L
SampType: MS	Run ID: GCMS9_131008B	Analysis Date: 10/8/2013 11:02:00 PM Prep Date: 9/25/2013		
Analyte	Result	RL	SPK value	Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
1-Chloronaphthalene	0.0336	0.000800	0.0400	0 84.1 45 125 N
1-Naphthylamine	0.0286	0.000800	0.0400	0 71.5 45 125
2-Naphthylamine	0.0313	0.000800	0.0400	0 78.2 45 125
2-Picoline	0.0252	0.000800	0.0400	0 63.1 45 125
3-Methylcholanthrene	0.0385	0.000800	0.0400	0 96.2 45 125
4-Aminobiphenyl	0.0291	0.000800	0.0400	0 72.9 45 125
7,12-Dimethylbenz(a)anthracene	0.0381	0.000800	0.0400	0 95.2 45 125
Dibenz(a,j)acridine	0.0418	0.00400	0.0400	0 104 45 125 N
Dimethylphenethylamine	0.00326	0.00600	0.0400	0 8.15 45 125 S
Diphenylamine	0.0692	0.000800	0.0800	0 86.5 45 125
Ethyl methanesulfonate	0.0343	0.000800	0.0400	0 85.8 45 125
Methyl methanesulfonate	0.0250	0.000800	0.0400	0 62.5 45 125
N-Nitrosopiperidine	0.0383	0.000800	0.0400	0 95.6 45 125
p-Dimethylaminoazobenzene	0.0387	0.000800	0.0400	0 96.7 45 125 N
Pentachloronitrobenzene	0.0430	0.000800	0.0400	0 108 45 125
Phenacetin	0.0438	0.000800	0.0400	0 110 45 125
Pronamide	0.0402	0.000800	0.0400	0 101 45 125

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS9\_131008B

Sample ID: 1309204-09GMSD	Batch ID: 59628	TestNo: SW8270D		Units: mg/L	
SampType: MSD	Run ID: GCMS9_131008B	Analysis Date: 10/8/2013 11:25:00 PM			Prep Date: 9/25/2013
Analyte	Result	RL	SPK value	Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
1-Chloronaphthalene	0.0333	0.000800	0.0400	0	83.2 45 125 1.14 30 N
1-Naphthylamine	0.0296	0.000800	0.0400	0	74.1 45 125 3.50 30
2-Naphthylamine	0.0324	0.000800	0.0400	0	81.0 45 125 3.52 30
2-Picoline	0.0255	0.000800	0.0400	0	63.8 45 125 1.10 30
3-Methylcholanthrene	0.0398	0.000800	0.0400	0	99.4 45 125 3.32 30
4-Aminobiphenyl	0.0287	0.000800	0.0400	0	71.8 45 125 1.45 30
7,12-Dimethylbenz(a)anthracene	0.0393	0.000800	0.0400	0	98.4 45 125 3.20 30
Dibenz(a,j)acridine	0.0424	0.00400	0.0400	0	106 45 125 1.62 30 N
Dimethylphenethylamine	<0.00200	0.00600	0.0400	0	0 45 125 0 30 S
Diphenylamine	0.0706	0.000800	0.0800	0	88.2 45 125 2.03 30
Ethyl methanesulfonate	0.0338	0.000800	0.0400	0	84.4 45 125 1.53 30
Methyl methanesulfonate	0.0251	0.000800	0.0400	0	62.8 45 125 0.479 30
N-Nitrosopiperidine	0.0386	0.000800	0.0400	0	96.6 45 125 0.988 30
p-Dimethylaminoazobenzene	0.0395	0.000800	0.0400	0	98.8 45 125 2.15 30 N
Pentachloronitrobenzene	0.0436	0.000800	0.0400	0	109 45 125 1.39 30
Phenacetin	0.0445	0.000800	0.0400	0	111 45 125 1.58 30
Pronamide	0.0413	0.000800	0.0400	0	103 45 125 2.65 30

Sample ID: MB-59628	Batch ID: 59628	TestNo: SW8270D		Units: mg/L	
SampType: MBLK	Run ID: GCMS9_131008B	Analysis Date: 10/9/2013 12:12:00 AM			Prep Date: 9/25/2013
Analyte	Result	RL	SPK value	Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
1-Chloronaphthalene	<0.000200	0.000800			N
1-Naphthylamine	<0.000200	0.000800			
2-Naphthylamine	<0.000200	0.000800			
2-Picoline	<0.000200	0.000800			
3-Methylcholanthrene	<0.000200	0.000800			
4-Aminobiphenyl	<0.000200	0.000800			
7,12-Dimethylbenz(a)anthracene	<0.000200	0.000800			
Dibenz(a,j)acridine	<0.00100	0.00400			N
Dimethylphenethylamine	<0.00200	0.00600			
Diphenylamine	<0.000200	0.000800			
Ethyl methanesulfonate	<0.000200	0.000800			
Methyl methanesulfonate	<0.000200	0.000800			
N-Nitrosopiperidine	<0.000200	0.000800			
p-Dimethylaminoazobenzene	<0.000200	0.000800			N
Pentachloronitrobenzene	<0.000200	0.000800			
Phenacetin	<0.000200	0.000800			
Pronamide	<0.000200	0.000800			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS9\_131008B

Sample ID: ICV2-131008	Batch ID: R69078	TestNo: SW8270D	Units: mg/L							
SampType: ICV	Run ID: GCMS9_131008B	Analysis Date: 10/8/2013 4:56:00 PM								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2,4,5-Tetrachlorobenzene	3.85	0.000800	4.00	0	96.4	80	120			
1,2-Diphenylhydrazine	3.83	0.000800	4.00	0	95.8	80	120			
1-Methylnaphthalene	3.72	0.000800	4.00	0	93.0	80	120			N
2,4,5-Trichlorophenol	3.96	0.000800	4.00	0	99.1	80	120			
2,4,6-Trichlorophenol	3.80	0.000800	4.00	0	94.9	80	120			
2,4-Dichlorophenol	3.89	0.000800	4.00	0	97.4	80	120			
2,4-Dimethylphenol	4.06	0.000800	4.00	0	101	80	120			
2,4-Dinitrophenol	4.37	0.00400	4.00	0	109	80	120			
2,4-Dinitrotoluene	3.97	0.000800	4.00	0	99.3	80	120			
2,6-Dichlorophenol	3.88	0.000800	4.00	0	96.9	80	120			
2,6-Dinitrotoluene	3.96	0.000800	4.00	0	98.9	80	120			
2-Chloronaphthalene	3.81	0.000800	4.00	0	95.2	80	120			
2-Chlorophenol	3.95	0.000800	4.00	0	98.9	80	120			
2-Methylnaphthalene	3.87	0.000800	4.00	0	96.9	80	120			
2-Methylphenol	4.35	0.000800	4.00	0	109	80	120			
2-Nitroaniline	3.97	0.000800	4.00	0	99.3	80	120			
2-Nitrophenol	3.95	0.000800	4.00	0	98.7	80	120			
3,3'-Dichlorobenzidine	3.50	0.00400	4.00	0	87.5	80	120			
3-Nitroaniline	3.80	0.000800	4.00	0	95.1	80	120			
4,6-Dinitro-2-methylphenol	4.04	0.00200	4.00	0	101	80	120			
4-Bromophenyl phenyl ether	4.03	0.000800	4.00	0	101	80	120			
4-Chloro-3-methylphenol	3.97	0.000800	4.00	0	99.2	80	120			
4-Chloroaniline	3.65	0.00200	4.00	0	91.2	80	120			
4-Chlorophenyl phenyl ether	3.90	0.000800	4.00	0	97.6	80	120			
4-Methylphenol	4.25	0.000800	4.00	0	106	80	120			
4-Nitroaniline	4.02	0.000800	4.00	0	101	80	120			
4-Nitrophenol	4.05	0.00400	4.00	0	101	80	120			
Acenaphthene	3.81	0.000800	4.00	0	95.2	80	120			
Acenaphthylene	3.84	0.000800	4.00	0	96.0	80	120			
Acetophenone	3.93	0.000800	4.00	0	98.4	80	120			
Aniline	3.72	0.000800	4.00	0	93.1	80	120			
Anthracene	4.02	0.000800	4.00	0	100	80	120			
Benzidine	3.26	0.00600	4.00	0	81.5	80	120			
Benzo[a]anthracene	3.75	0.000800	4.00	0	93.8	80	120			
Benzo[a]pyrene	4.07	0.000800	4.00	0	102	80	120			
Benzo[b]fluoranthene	3.85	0.000800	4.00	0	96.2	80	120			
Benzo[g,h,i]perylene	3.88	0.000800	4.00	0	96.9	80	120			
Benzo[k]fluoranthene	3.82	0.000800	4.00	0	95.4	80	120			
Benzoic acid	4.45	0.00600	4.00	0	111	80	120			
Benzyl alcohol	3.42	0.00200	4.00	0	85.6	80	120			
Biphenyl	3.61	0.000800	4.00	0	90.3	80	120			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS9\_131008B

Sample ID: ICV2-131008	Batch ID: R69078	TestNo: SW8270D	Units: mg/L							
SampType: ICV	Run ID: GCMS9_131008B	Analysis Date: 10/8/2013 4:56:00 PM								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bis(2-chloroethoxy)methane	3.98	0.000800	4.00	0	99.5	80	120			
Bis(2-chloroethyl)ether	3.93	0.000800	4.00	0	98.3	80	120			
Bis(2-chloroisopropyl)ether	3.91	0.000800	4.00	0	97.6	80	120			
Bis(2-ethylhexyl)phthalate	3.92	0.00300	4.00	0	97.9	80	120			
Butyl benzyl phthalate	3.94	0.00600	4.00	0	98.6	80	120			
Carbazole	4.08	0.000800	4.00	0	102	80	120			
Chrysene	3.57	0.000800	4.00	0	89.2	80	120			
Dibenz[a,h]anthracene	3.94	0.000800	4.00	0	98.6	80	120			
Dibenzo furan	3.86	0.000800	4.00	0	96.5	80	120			
Diethyl phthalate	4.07	0.00600	4.00	0	102	80	120			
Dimethyl phthalate	4.11	0.00600	4.00	0	103	80	120			
Di-n-butyl phthalate	3.96	0.00600	4.00	0	99.1	80	120			
Di-n-octyl phthalate	3.91	0.00600	4.00	0	97.7	80	120			
Fluoranthene	3.99	0.000800	4.00	0	99.9	80	120			
Fluorene	3.95	0.000800	4.00	0	98.7	80	120			
Hexachlorobenzene	3.96	0.000800	4.00	0	98.9	80	120			
Hexachlorobutadiene	3.84	0.000800	4.00	0	96.1	80	120			
Hexachlorocyclopentadiene	3.91	0.00200	4.00	0	97.7	80	120			
Hexachloroethane	3.98	0.000800	4.00	0	99.6	80	120			
Indeno[1,2,3-cd]pyrene	3.95	0.000800	4.00	0	98.8	80	120			
Isophorone	3.99	0.000800	4.00	0	99.7	80	120			
Naphthalene	3.83	0.000800	4.00	0	95.6	80	120			
Nitrobenzene	4.21	0.000800	4.00	0	105	80	120			
N-Nitrosodimethylamine	3.62	0.000800	4.00	0	90.4	80	120			
N-Nitrosodi-n-propylamine	4.23	0.000800	4.00	0	106	80	120			
N-Nitrosodiphenylamine	4.10	0.000800	4.00	0	102	80	120			
Pentachlorobenzene	3.85	0.000800	4.00	0	96.3	80	120			
Pentachlorophenol	3.95	0.000800	4.00	0	98.8	80	120			
Phenanthrene	3.69	0.000800	4.00	0	92.2	80	120			
Phenol	4.06	0.000800	4.00	0	102	80	120			
Pyrene	3.75	0.000800	4.00	0	93.8	80	120			
Pyridine	3.59	0.00200	4.00	0	89.8	80	120			
Surr: 2,4,6-Tribromophenol	3940		4000		98.5	80	120			
Surr: 2-Fluorobiphenyl	3830		4000		95.8	80	120			
Surr: 2-Fluorophenol	4000		4000		100	80	120			
Surr: 4-Terphenyl-d14	3720		4000		93.0	80	120			
Surr: Nitrobenzene-d5	3900		4000		97.5	80	120			
Surr: Phenol-d5	4130		4000		103	80	120			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS9\_131008B

Sample ID: ICV-131008 APP9	Batch ID: R69078	TestNo: SW8270D	Units: mg/L							
SampType: ICV	Run ID: GCMS9_131008B	Analysis Date: 10/8/2013 8:42:00 PM	Prep Date:							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1-Chloronaphthalene	4.00	0.000800	4.00	0	99.9	80	120			N
1-Naphthylamine	4.38	0.000800	4.00	0	109	80	120			
2-Naphthylamine	4.38	0.000800	4.00	0	110	80	120			
2-Picoline	4.24	0.000800	4.00	0	106	80	120			
3-Methylcholanthrene	4.46	0.000800	4.00	0	112	80	120			
4-Aminobiphenyl	4.40	0.000800	4.00	0	110	80	120			
7,12-Dimethylbenz(a)anthracene	4.38	0.000800	4.00	0	110	80	120			
Dibenz(a,j)acridine	4.47	0.00400	4.00	0	112	80	120			N
Dimethylphenethylamine	4.08	0.00600	4.00	0	102	80	120			
Diphenylamine	4.23	0.000800	4.00	0	106	80	120			
Ethyl methanesulfonate	4.30	0.000800	4.00	0	108	80	120			
Methyl methanesulfonate	4.05	0.000800	4.00	0	101	80	120			
N-Nitrosopiperidine	4.46	0.000800	4.00	0	112	80	120			
p-Dimethylaminoazobenzene	4.09	0.000800	4.00	0	102	80	120			N
Pentachloronitrobenzene	4.07	0.000800	4.00	0	102	80	120			
Phenacetin	4.02	0.000800	4.00	0	100	80	120			
Pronamide	3.98	0.000800	4.00	0	99.4	80	120			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS5\_130927A

The QC data in batch 59688 applies to the following samples: 1309209-01A, 1309209-02A, 1309209-03A

Sample ID: LCS-59688	Batch ID: 59688	TestNo: SW8260C	Units: mg/L							
SampType: LCS	Run ID: GCMS5_130927A	Analysis Date: 9/27/2013 10:27:00 AM	Prep Date: 9/27/2013							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	0.0235	0.00100	0.0232	0	101	80	130			
1,1,1-Trichloroethane	0.0232	0.00100	0.0232	0	99.9	65	130			
1,1,2,2-Tetrachloroethane	0.0234	0.00100	0.0232	0	101	65	130			
1,1,2-Trichloroethane	0.0237	0.00100	0.0232	0	102	75	125			
1,1-Dichloroethane	0.0228	0.00100	0.0232	0	98.4	70	135			
1,1-Dichloroethene	0.0228	0.00100	0.0232	0	98.1	70	130			
1,1-Dichloropropene	0.0242	0.00100	0.0232	0	104	75	130			
1,2,3-Trichlorobenzene	0.0225	0.00500	0.0232	0	96.8	55	140			
1,2,3-Trichloropropane	0.0242	0.00100	0.0232	0	104	75	125			
1,2,4-Trichlorobenzene	0.0222	0.00500	0.0232	0	95.5	65	135			
1,2,4-Trimethylbenzene	0.0241	0.00500	0.0232	0	104	75	130			
1,2-Dibromo-3-chloropropane	0.0217	0.0100	0.0232	0	93.4	50	130			
1,2-Dibromoethane	0.0234	0.00100	0.0232	0	101	80	120			
1,2-Dichlorobenzene	0.0234	0.00100	0.0232	0	101	70	120			
1,2-Dichloroethane	0.0234	0.00100	0.0232	0	101	70	130			
1,2-Dichloropropane	0.0233	0.00100	0.0232	0	101	75	125			
1,3,5-Trimethylbenzene	0.0241	0.00500	0.0232	0	104	75	130			
1,3-Dichlorobenzene	0.0231	0.00100	0.0232	0	99.4	75	125			
1,3-Dichloropropane	0.0225	0.00100	0.0232	0	96.9	75	125			
1,4-Dichloro-2-butene	0.0224	0.00200	0.0232	0	96.7	50	150			
1,4-Dichlorobenzene	0.0230	0.00100	0.0232	0	98.9	75	125			
2,2-Dichloropropane	0.0235	0.00100	0.0232	0	101	70	135			
2-Butanone	0.116	0.0150	0.116	0	99.9	30	150			
2-Chloroethylvinylether	0.0225	0.0150	0.0232	0	97.1	50	150			
2-Chlorotoluene	0.0236	0.00100	0.0232	0	102	75	125			
2-Hexanone	0.112	0.0150	0.116	0	96.4	55	130			
4-Chlorotoluene	0.0235	0.00100	0.0232	0	101	75	130			
4-Methyl-2-pentanone	0.122	0.0150	0.116	0	105	60	135			
Acetone	0.110	0.0150	0.116	0	95.2	40	140			
Acrylonitrile	0.0493	0.00300	0.0464	0	106	50	150			
Benzene	0.0234	0.00100	0.0232	0	101	80	120			
Bromobenzene	0.0233	0.00100	0.0232	0	101	75	125			
Bromochloromethane	0.0228	0.00100	0.0232	0	98.4	65	130			
Bromodichloromethane	0.0239	0.00100	0.0232	0	103	75	120			
Bromoform	0.0205	0.00100	0.0232	0	88.3	70	130			
Bromomethane	0.0272	0.00100	0.0232	0	117	30	145			
Carbon disulfide	0.0207	0.0150	0.0232	0	89.1	35	160			
Carbon tetrachloride	0.0233	0.00100	0.0232	0	100	65	140			
Chlorobenzene	0.0227	0.00100	0.0232	0	98.0	80	120			
Chloroethane	0.0226	0.00100	0.0232	0	97.6	60	135			

**Qualifiers:**

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS5\_130927A

Sample ID: LCS-59688	Batch ID: 59688	TestNo: SW8260C	Units: mg/L							
SampType: LCS	Run ID: GCMS5_130927A	Analysis Date: 9/27/2013 10:27:00 AM Prep Date: 9/27/2013								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloroform	0.0237	0.00100	0.0232	0	102	65	135			
Chloromethane	0.0229	0.00100	0.0232	0	98.5	40	125			
cis-1,2-Dichloroethene	0.0237	0.00100	0.0232	0	102	70	125			
cis-1,3-Dichloropropene	0.0219	0.00100	0.0232	0	94.5	70	130			
Dibromochloromethane	0.0232	0.00100	0.0232	0	100	60	135			
Dibromomethane	0.0234	0.00100	0.0232	0	101	75	125			
Dichlorodifluoromethane	0.0208	0.00100	0.0232	0	89.7	30	155			
Ethylbenzene	0.0227	0.00100	0.0232	0	97.8	75	125			
Iodomethane	0.0179	0.0150	0.0232	0	77.1	50	150			
Isopropylbenzene	0.0235	0.00100	0.0232	0	101	75	125			
m,p-Xylene	0.0467	0.00200	0.0464	0	101	75	130			
Methyl tert-butyl ether	0.0234	0.00100	0.0232	0	101	65	125			
Methylene chloride	0.0243	0.00250	0.0232	0	105	55	140			
n-Butylbenzene	0.0243	0.00100	0.0232	0	105	70	135			
n-Propylbenzene	0.0236	0.00100	0.0232	0	102	70	130			
o-Xylene	0.0238	0.00100	0.0232	0	102	80	120			
p-Isopropyltoluene	0.0240	0.00100	0.0232	0	103	75	130			
sec-Butylbenzene	0.0241	0.00100	0.0232	0	104	70	125			
Styrene	0.0238	0.00100	0.0232	0	103	65	135			
tert-Butylbenzene	0.0236	0.00100	0.0232	0	102	70	130			
Tetrachloroethene	0.0228	0.00200	0.0232	0	98.3	45	150			
Toluene	0.0234	0.00200	0.0232	0	101	75	120			
trans-1,2-Dichloroethene	0.0231	0.00100	0.0232	0	99.5	60	140			
trans-1,3-Dichloropropene	0.0220	0.00100	0.0232	0	94.7	55	140			
Trichloroethene	0.0235	0.00200	0.0232	0	101	70	125			
Trichlorofluoromethane	0.0234	0.00100	0.0232	0	101	60	145			
Vinyl chloride	0.0220	0.00100	0.0232	0	94.9	50	145			
Surr: 1,2-Dichloroethane-d4	201		200.0		100	70	120			
Surr: 4-Bromofluorobenzene	199		200.0		99.4	75	120			
Surr: Dibromofluoromethane	199		200.0		99.5	85	115			
Surr: Toluene-d8	196		200.0		98.1	85	120			

Sample ID: LCSD-59688	Batch ID: 59688	TestNo: SW8260C	Units: mg/L							
SampType: LCSD	Run ID: GCMS5_130927A	Analysis Date: 9/27/2013 10:52:00 AM Prep Date: 9/27/2013								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	0.0231	0.00100	0.0232	0	99.6	80	130	1.72	30	
1,1,1-Trichloroethane	0.0230	0.00100	0.0232	0	99.3	65	130	0.606	30	
1,1,2,2-Tetrachloroethane	0.0232	0.00100	0.0232	0	99.9	65	130	0.774	30	
1,1,2-Trichloroethane	0.0235	0.00100	0.0232	0	101	75	125	0.678	30	
1,1-Dichloroethane	0.0232	0.00100	0.0232	0	99.8	70	135	1.48	30	

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS5\_130927A

Sample ID: LCSD-59688	Batch ID: 59688	TestNo: SW8260C		Units: mg/L						
SampType: LCSD	Run ID: GCMS5_130927A	Analysis Date: 9/27/2013 10:52:00 AM			Prep Date: 9/27/2013					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloroethene	0.0231	0.00100	0.0232	0	99.7	70	130	1.61	30	
1,1-Dichloropropene	0.0244	0.00100	0.0232	0	105	75	130	0.947	30	
1,2,3-Trichlorobenzene	0.0227	0.00500	0.0232	0	97.7	55	140	0.887	30	
1,2,3-Trichloropropane	0.0242	0.00100	0.0232	0	104	75	125	0.248	30	
1,2,4-Trichlorobenzene	0.0227	0.00500	0.0232	0	97.7	65	135	2.32	30	
1,2,4-Trimethylbenzene	0.0242	0.00500	0.0232	0	104	75	130	0.622	30	
1,2-Dibromo-3-chloropropane	0.0216	0.0100	0.0232	0	93.1	50	130	0.323	30	
1,2-Dibromoethane	0.0230	0.00100	0.0232	0	99.2	80	120	1.64	30	
1,2-Dichlorobenzene	0.0240	0.00100	0.0232	0	104	70	120	2.83	30	
1,2-Dichloroethane	0.0239	0.00100	0.0232	0	103	70	130	2.03	30	
1,2-Dichloropropane	0.0236	0.00100	0.0232	0	102	75	125	1.23	30	
1,3,5-Trimethylbenzene	0.0242	0.00500	0.0232	0	104	75	130	0.331	30	
1,3-Dichlorobenzene	0.0236	0.00100	0.0232	0	102	75	125	2.23	30	
1,3-Dichloropropane	0.0229	0.00100	0.0232	0	98.6	75	125	1.72	30	
1,4-Dichloro-2-butene	0.0222	0.00200	0.0232	0	95.6	50	150	1.17	30	
1,4-Dichlorobenzene	0.0229	0.00100	0.0232	0	98.7	75	125	0.262	30	
2,2-Dichloropropane	0.0235	0.00100	0.0232	0	101	70	135	0.042	30	
2-Butanone	0.118	0.0150	0.116	0	102	30	150	1.84	30	
2-Chloroethylvinylether	0.0233	0.0150	0.0232	0	100	50	150	3.36	30	
2-Chlorotoluene	0.0240	0.00100	0.0232	0	103	75	125	1.60	30	
2-Hexanone	0.113	0.0150	0.116	0	97.1	55	130	0.677	30	
4-Chlorotoluene	0.0238	0.00100	0.0232	0	102	75	130	1.01	30	
4-Methyl-2-pentanone	0.126	0.0150	0.116	0	109	60	135	3.35	30	
Acetone	0.113	0.0150	0.116	0	97.6	40	140	2.51	30	
Acrylonitrile	0.0499	0.00300	0.0464	0	108	50	150	1.17	30	
Benzene	0.0236	0.00100	0.0232	0	102	80	120	0.851	30	
Bromobenzene	0.0230	0.00100	0.0232	0	99.1	75	125	1.42	30	
Bromochloromethane	0.0233	0.00100	0.0232	0	100	65	130	1.82	30	
Bromodichloromethane	0.0239	0.00100	0.0232	0	103	75	120	0.083	30	
Bromoform	0.0201	0.00100	0.0232	0	86.5	70	130	2.07	30	
Bromomethane	0.0263	0.00100	0.0232	0	113	30	145	3.55	30	
Carbon disulfide	0.0206	0.0150	0.0232	0	88.6	35	160	0.485	30	
Carbon tetrachloride	0.0228	0.00100	0.0232	0	98.4	65	140	1.82	30	
Chlorobenzene	0.0225	0.00100	0.0232	0	97.0	80	120	1.02	30	
Chloroethane	0.0233	0.00100	0.0232	0	101	60	135	2.96	30	
Chloroform	0.0238	0.00100	0.0232	0	103	65	135	0.589	30	
Chloromethane	0.0227	0.00100	0.0232	0	97.8	40	125	0.703	30	
cis-1,2-Dichloroethene	0.0238	0.00100	0.0232	0	103	70	125	0.421	30	
cis-1,3-Dichloropropene	0.0221	0.00100	0.0232	0	95.3	70	130	0.818	30	
Dibromochloromethane	0.0231	0.00100	0.0232	0	99.7	60	135	0.259	30	
Dibromomethane	0.0238	0.00100	0.0232	0	103	75	125	1.69	30	

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS5\_130927A

Sample ID: LCSD-59688	Batch ID: 59688	TestNo: SW8260C		Units: mg/L	
SampType: LCSD	Run ID: GCMS5_130927A	Analysis Date: 9/27/2013 10:52:00 AM Prep Date: 9/27/2013			
Analyte	Result	RL	SPK value	Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
Dichlorodifluoromethane	0.0208	0.00100	0.0232	0	89.7 30 155 0.096 30
Ethylbenzene	0.0226	0.00100	0.0232	0	97.5 75 125 0.309 30
Iodomethane	0.0181	0.0150	0.0232	0	78.2 50 150 1.44 30
Isopropylbenzene	0.0235	0.00100	0.0232	0	101 75 125 0.085 30
m,p-Xylene	0.0461	0.00200	0.0464	0	99.3 75 130 1.47 30
Methyl tert-butyl ether	0.0243	0.00100	0.0232	0	105 65 125 3.94 30
Methylene chloride	0.0236	0.00250	0.0232	0	102 55 140 2.88 30
n-Butylbenzene	0.0251	0.00100	0.0232	0	108 70 135 3.40 30
n-Propylbenzene	0.0242	0.00100	0.0232	0	104 70 130 2.26 30
o-Xylene	0.0236	0.00100	0.0232	0	102 80 120 0.591 30
p-Isopropyltoluene	0.0245	0.00100	0.0232	0	105 75 130 2.07 30
sec-Butylbenzene	0.0245	0.00100	0.0232	0	106 70 125 1.69 30
Styrene	0.0238	0.00100	0.0232	0	103 65 135 0.168 30
tert-Butylbenzene	0.0240	0.00100	0.0232	0	103 70 130 1.77 30
Tetrachloroethene	0.0228	0.00200	0.0232	0	98.1 45 150 0.176 30
Toluene	0.0234	0.00200	0.0232	0	101 75 120 0.171 30
trans-1,2-Dichloroethene	0.0225	0.00100	0.0232	0	97.1 60 140 2.46 30
trans-1,3-Dichloropropene	0.0222	0.00100	0.0232	0	95.7 55 140 1.04 30
Trichloroethene	0.0236	0.00200	0.0232	0	102 70 125 0.467 30
Trichlorofluoromethane	0.0230	0.00100	0.0232	0	99.3 60 145 1.34 30
Vinyl chloride	0.0228	0.00100	0.0232	0	98.1 50 145 3.35 30
Surr: 1,2-Dichloroethane-d4	204		200.0	102	70 120 0 0
Surr: 4-Bromofluorobenzene	203		200.0	102	75 120 0 0
Surr: Dibromofluoromethane	196		200.0	97.8	85 115 0 0
Surr: Toluene-d8	197		200.0	98.4	85 120 0 0

Sample ID: MB-59688	Batch ID: 59688	TestNo: SW8260C		Units: mg/L	
SampType: MBLK	Run ID: GCMS5_130927A	Analysis Date: 9/27/2013 11:40:00 AM Prep Date: 9/27/2013			
Analyte	Result	RL	SPK value	Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
1,1,1,2-Tetrachloroethane	<0.000200	0.00100			
1,1,1-Trichloroethane	<0.000200	0.00100			
1,1,2,2-Tetrachloroethane	<0.000200	0.00100			
1,1,2-Trichloroethane	<0.000200	0.00100			
1,1-Dichloroethane	<0.000200	0.00100			
1,1-Dichloroethene	<0.000200	0.00100			
1,1-Dichloropropene	<0.000200	0.00100			
1,2,3-Trichlorobenzene	<0.00150	0.00500			
1,2,3-Trichloropropane	<0.000300	0.00100			
1,2,4-Trichlorobenzene	<0.00150	0.00500			
1,2,4-Trimethylbenzene	<0.00150	0.00500			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS5\_130927A

Sample ID: MB-59688	Batch ID: 59688	TestNo: SW8260C	Units: mg/L							
SampType: MBLK	Run ID: GCMS5_130927A	Analysis Date: 9/27/2013 11:40:00 AM Prep Date: 9/27/2013								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromo-3-chloropropane	<0.00300	0.0100								
1,2-Dibromoethane	<0.000200	0.00100								
1,2-Dichlorobenzene	<0.000300	0.00100								
1,2-Dichloroethane	<0.000300	0.00100								
1,2-Dichloropropane	<0.000200	0.00100								
1,3,5-Trimethylbenzene	<0.00150	0.00500								
1,3-Dichlorobenzene	<0.000300	0.00100								
1,3-Dichloropropane	<0.000200	0.00100								
1,4-Dichloro-2-butene	<0.00200	0.00200								
1,4-Dichlorobenzene	<0.000300	0.00100								
2,2-Dichloropropane	<0.000200	0.00100								
2-Butanone	<0.00500	0.0150								
2-Chloroethylvinylether	<0.00500	0.0150								
2-Chlorotoluene	<0.000300	0.00100								
2-Hexanone	<0.00500	0.0150								
4-Chlorotoluene	<0.000300	0.00100								
4-Methyl-2-pentanone	<0.00500	0.0150								
Acetone	<0.00500	0.0150								
Acrylonitrile	<0.00100	0.00300								
Benzene	<0.000200	0.00100								
Bromobenzene	<0.000200	0.00100								
Bromochloromethane	<0.000200	0.00100								
Bromodichloromethane	<0.000200	0.00100								
Bromoform	<0.000200	0.00100								
Bromomethane	<0.000300	0.00100								
Carbon disulfide	<0.00500	0.0150								
Carbon tetrachloride	<0.000200	0.00100								
Chlorobenzene	<0.000200	0.00100								
Chloroethane	<0.000300	0.00100								
Chloroform	<0.000300	0.00100								
Chloromethane	<0.000300	0.00100								
cis-1,2-Dichloroethene	<0.000200	0.00100								
cis-1,3-Dichloropropene	<0.000200	0.00100								
Dibromochloromethane	<0.000200	0.00100								
Dibromomethane	<0.000200	0.00100								
Dichlorodifluoromethane	<0.000200	0.00100								
Ethylbenzene	<0.000300	0.00100								
Iodomethane	<0.00500	0.0150								
Isopropylbenzene	<0.000200	0.00100								
m,p-Xylene	<0.000600	0.00200								
Methyl tert-butyl ether	<0.000300	0.00100								

**Qualifiers:**

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS5\_130927A

Sample ID: MB-59688	Batch ID: 59688	TestNo: SW8260C	Units: mg/L							
SampType: MBLK	Run ID: GCMS5_130927A	Analysis Date: 9/27/2013 11:40:00 AM	Prep Date: 9/27/2013							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methylene chloride	<0.00250	0.00250								
n-Butylbenzene	<0.000300	0.00100								
n-Propylbenzene	<0.000300	0.00100								
o-Xylene	<0.000300	0.00100								
p-Isopropyltoluene	<0.000300	0.00100								
sec-Butylbenzene	<0.000300	0.00100								
Styrene	<0.000200	0.00100								
tert-Butylbenzene	<0.000300	0.00100								
Tetrachloroethene	<0.000600	0.00200								
Toluene	<0.000600	0.00200								
trans-1,2-Dichloroethene	<0.000200	0.00100								
trans-1,3-Dichloropropene	<0.000200	0.00100								
Trichloroethene	<0.000600	0.00200								
Trichlorofluoromethane	<0.000200	0.00100								
Vinyl chloride	<0.000100	0.00100								
Surr: 1,2-Dichloroethane-d4	211		200.0		106	70	120			
Surr: 4-Bromofluorobenzene	217		200.0		109	75	120			
Surr: Dibromofluoromethane	204		200.0		102	85	115			
Surr: Toluene-d8	201		200.0		101	85	120			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS5\_130927A

Sample ID: ICV-130927	Batch ID: R68859	TestNo: SW8260C	Units: mg/L							
SampType: ICV	Run ID: GCMS5_130927A	Analysis Date: 9/27/2013 10:03:00 AM Prep Date:								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	0.0472	0.00100	0.0464	0	102	80	120			
1,1,1-Trichloroethane	0.0474	0.00100	0.0464	0	102	80	120			
1,1,2,2-Tetrachloroethane	0.0473	0.00100	0.0464	0	102	80	120			
1,1,2-Trichloroethane	0.0497	0.00100	0.0464	0	107	80	120			
1,1-Dichloroethane	0.0463	0.00100	0.0464	0	99.8	80	120			
1,1-Dichloroethene	0.0443	0.00100	0.0464	0	95.5	80	120			
1,1-Dichloropropene	0.0489	0.00100	0.0464	0	105	80	120			
1,2,3-Trichlorobenzene	0.0471	0.00500	0.0464	0	102	80	120			
1,2,3-Trichloropropane	0.0493	0.00100	0.0464	0	106	80	120			
1,2,4-Trichlorobenzene	0.0479	0.00500	0.0464	0	103	80	120			
1,2,4-Trimethylbenzene	0.0479	0.00500	0.0464	0	103	80	120			
1,2-Dibromo-3-chloropropane	0.0449	0.0100	0.0464	0	96.8	80	120			
1,2-Dibromoethane	0.0462	0.00100	0.0464	0	99.5	80	120			
1,2-Dichlorobenzene	0.0468	0.00100	0.0464	0	101	80	120			
1,2-Dichloroethane	0.0486	0.00100	0.0464	0	105	80	120			
1,2-Dichloropropane	0.0476	0.00100	0.0464	0	103	80	120			
1,3,5-Trimethylbenzene	0.0473	0.00500	0.0464	0	102	80	120			
1,3-Dichlorobenzene	0.0471	0.00100	0.0464	0	101	80	120			
1,3-Dichloropropane	0.0460	0.00100	0.0464	0	99.1	80	120			
1,4-Dichloro-2-butene	0.0485	0.00200	0.0464	0	105	80	120			
1,4-Dichlorobenzene	0.0455	0.00100	0.0464	0	98.0	80	120			
2,2-Dichloropropane	0.0494	0.00100	0.0464	0	107	80	120			
2-Butanone	0.238	0.0150	0.232	0	103	80	120			
2-Chloroethylvinylether	0.0459	0.0150	0.0464	0	99.0	80	120			
2-Chlorotoluene	0.0466	0.00100	0.0464	0	100	80	120			
2-Hexanone	0.237	0.0150	0.232	0	102	80	120			
4-Chlorotoluene	0.0473	0.00100	0.0464	0	102	80	120			
4-Methyl-2-pentanone	0.259	0.0150	0.232	0	111	80	120			
Acetone	0.236	0.0150	0.232	0	102	80	120			
Acrylonitrile	0.103	0.00300	0.0928	0	111	60	140			
Benzene	0.0472	0.00100	0.0464	0	102	80	120			
Bromobenzene	0.0467	0.00100	0.0464	0	101	80	120			
Bromochloromethane	0.0462	0.00100	0.0464	0	99.5	80	120			
Bromodichloromethane	0.0505	0.00100	0.0464	0	109	80	120			
Bromoform	0.0436	0.00100	0.0464	0	94.0	80	120			
Bromomethane	0.0545	0.00100	0.0464	0	118	80	120			
Carbon disulfide	0.0419	0.0150	0.0464	0	90.4	80	120			
Carbon tetrachloride	0.0492	0.00100	0.0464	0	106	80	120			
Chlorobenzene	0.0443	0.00100	0.0464	0	95.5	80	120			
Chloroethane	0.0489	0.00100	0.0464	0	105	80	120			
Chloroform	0.0480	0.00100	0.0464	0	103	80	120			

**Qualifiers:**

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** GCMS5\_130927A

Sample ID: ICV-130927	Batch ID: R68859	TestNo: SW8260C	Units: mg/L							
SampType: ICV	Run ID: GCMS5_130927A	Analysis Date: 9/27/2013 10:03:00 AM Prep Date:								
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloromethane	0.0496	0.00100	0.0464	0	107	80	120			
cis-1,2-Dichloroethene	0.0477	0.00100	0.0464	0	103	80	120			
cis-1,3-Dichloropropene	0.0455	0.00100	0.0464	0	98.0	80	120			
Dibromochloromethane	0.0483	0.00100	0.0464	0	104	80	120			
Dibromomethane	0.0482	0.00100	0.0464	0	104	80	120			
Dichlorodifluoromethane	0.0520	0.00100	0.0464	0	112	80	120			
Ethylbenzene	0.0449	0.00100	0.0464	0	96.8	80	120			
Iodomethane	0.0405	0.0150	0.0464	0	87.4	80	120			
Isopropylbenzene	0.0484	0.00100	0.0464	0	104	80	120			
m,p-Xylene	0.0931	0.00200	0.0928	0	100	80	120			
Methyl tert-butyl ether	0.0490	0.00100	0.0464	0	106	80	120			
Methylene chloride	0.0467	0.00250	0.0464	0	101	80	120			
n-Butylbenzene	0.0518	0.00100	0.0464	0	112	80	120			
n-Propylbenzene	0.0472	0.00100	0.0464	0	102	80	120			
o-Xylene	0.0475	0.00100	0.0464	0	102	80	120			
p-Isopropyltoluene	0.0495	0.00100	0.0464	0	107	80	120			
sec-Butylbenzene	0.0473	0.00100	0.0464	0	102	80	120			
Styrene	0.0485	0.00100	0.0464	0	104	80	120			
tert-Butylbenzene	0.0469	0.00100	0.0464	0	101	80	120			
Tetrachloroethene	0.0439	0.00200	0.0464	0	94.7	80	120			
Toluene	0.0481	0.00200	0.0464	0	104	80	120			
trans-1,2-Dichloroethene	0.0460	0.00100	0.0464	0	99.2	80	120			
trans-1,3-Dichloropropene	0.0481	0.00100	0.0464	0	104	80	120			
Trichloroethene	0.0459	0.00200	0.0464	0	98.9	80	120			
Trichlorofluoromethane	0.0507	0.00100	0.0464	0	109	80	120			
Vinyl chloride	0.0483	0.00100	0.0464	0	104	80	120			
Surr: 1,2-Dichloroethane-d4	212		200.0		106	70	120			
Surr: 4-Bromofluorobenzene	199		200.0		99.7	75	120			
Surr: Dibromofluoromethane	202		200.0		101	85	115			
Surr: Toluene-d8	191		200.0		95.3	85	120			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** IC2\_130924A

The QC data in batch 59619 applies to the following samples: 1309209-02F, 1309209-03F

Sample ID: LCS-59619	Batch ID: 59619	TestNo: E300	Units: mg/L							
SampType: LCS	Run ID: IC2_130924A	Analysis Date: 9/24/2013 9:03:48 AM	Prep Date: 9/24/2013							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.2	1.00	10.00	0	102	90	110			
Sulfate	30.0	3.00	30.00	0	100	90	110			
Sample ID: LCSD-59619	Batch ID: 59619	TestNo: E300	Units: mg/L							
SampType: LCSD	Run ID: IC2_130924A	Analysis Date: 9/24/2013 9:18:22 AM	Prep Date: 9/24/2013							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.2	1.00	10.00	0	102	90	110	0.349	20	
Sulfate	29.9	3.00	30.00	0	99.6	90	110	0.408	20	
Sample ID: MB-59619	Batch ID: 59619	TestNo: E300	Units: mg/L							
SampType: MBLK	Run ID: IC2_130924A	Analysis Date: 9/24/2013 9:47:31 AM	Prep Date: 9/24/2013							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	<0.300	1.00								
Sulfate	<1.00	3.00								
Sample ID: 1309209-03F MS	Batch ID: 59619	TestNo: E300	Units: mg/L							
SampType: MS	Run ID: IC2_130924A	Analysis Date: 9/24/2013 11:16:55 AM	Prep Date: 9/24/2013							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	3030	100	2000	1332	85.1	90	110			S
Sulfate	9340	300	2000	6937	120	90	110			S
Sample ID: 1309209-03F MSD	Batch ID: 59619	TestNo: E300	Units: mg/L							
SampType: MSD	Run ID: IC2_130924A	Analysis Date: 9/24/2013 11:31:29 AM	Prep Date: 9/24/2013							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	3060	100	2000	1332	86.4	90	110	0.817	20	S
Sulfate	9380	300	2000	6937	122	90	110	0.421	20	S
Sample ID: 1309209-03F DUP	Batch ID: 59619	TestNo: E300	Units: mg/L							
SampType: DUP	Run ID: IC2_130924A	Analysis Date: 9/24/2013 11:02:20 AM	Prep Date: 9/24/2013							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	1380	100	0	1332				3.76	10	
Sulfate	7210	300	0	6937				3.88	10	

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** IC2\_130924A

Sample ID: ICV-130924	Batch ID: R68791	TestNo:	E300	Units:	mg/L					
SampType: ICV	Run ID: IC2_130924A	Analysis Date: 9/24/2013 8:47:32 AM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	25.7	1.00	25.00	0	103	90	110			
Sulfate	78.2	3.00	75.00	0	104	90	110			

Sample ID: CCV1-130924	Batch ID: R68791	TestNo:	E300	Units:	mg/L					
SampType: CCV	Run ID: IC2_130924A	Analysis Date: 9/24/2013 12:31:10 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.4	1.00	10.00	0	104	90	110			
Sulfate	30.5	3.00	30.00	0	102	90	110			

**Qualifiers:**

B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** TITRATOR\_130924A

The QC data in batch 59622 applies to the following samples: 1309209-02F, 1309209-03F

Sample ID: 1309209-03F DUP	Batch ID: 59622	TestNo:	M4500-H+ B	Units:	pH Units@15.6°C
SampType: DUP	Run ID: TITRATOR_130924A	Analysis Date:	9/24/2013 10:35:00 AM	Prep Date:	9/24/2013
Analyte	Result	RL	SPK value	Ref Val	%REC LowLimit HighLimit %RPD RPDLimit Qual
pH	7.43	0	0	7.430	0 5

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** TITRATOR\_130924A

Sample ID: ICV-130924	Batch ID: R68792	TestNo:	M4500-H+ B	Units:	pH Units@23.4°C					
SampType: ICV	Run ID: TITRATOR_130924A	Analysis Date: 9/24/2013 10:28:00 AM		Prep Date:	9/24/2013					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	10.0	0	10.00	0	100	99	101			
Sample ID: CCV-130924	Batch ID: R68792	TestNo:	M4500-H+ B	Units:	pH Units@22.9°C					
SampType: CCV	Run ID: TITRATOR_130924A	Analysis Date: 9/24/2013 10:36:00 AM		Prep Date:	9/24/2013					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	7.01	0	7.000	0	100	97.1	102.9			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** TITRATOR\_130924B

The QC data in batch 59623 applies to the following samples: 1309209-02F, 1309209-03F

Sample ID: <b>LCS-59623</b>	Batch ID: <b>59623</b>	TestNo: <b>M2320 B</b>	Units: <b>mg/L @ pH 4.51</b>							
SampType: <b>LCS</b>	Run ID: <b>TITRATOR_130924B</b>	Analysis Date: <b>9/24/2013 11:27:00 AM</b>	Prep Date: <b>9/24/2013</b>							
<hr/>										
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO <sub>3</sub> )				51.2	20.0	50.00	0	102	74	129
<hr/>										
Sample ID: <b>MBLK-59623</b>	Batch ID: <b>59623</b>	TestNo: <b>M2320 B</b>	Units: <b>mg/L @ pH 4.49</b>							
SampType: <b>MBLK</b>	Run ID: <b>TITRATOR_130924B</b>	Analysis Date: <b>9/24/2013 11:29:00 AM</b>	Prep Date: <b>9/24/2013</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	<10.0	20.0								
Alkalinity, Carbonate (As CaCO <sub>3</sub> )	<10.0	20.0								
Alkalinity, Hydroxide (As CaCO <sub>3</sub> )	<10.0	20.0								
Alkalinity, Total (As CaCO <sub>3</sub> )	<10.0	20.0								
<hr/>										
Sample ID: <b>1309209-03F DUP</b>	Batch ID: <b>59623</b>	TestNo: <b>M2320 B</b>	Units: <b>mg/L @ pH 4.52</b>							
SampType: <b>DUP</b>	Run ID: <b>TITRATOR_130924B</b>	Analysis Date: <b>9/24/2013 11:45:00 AM</b>	Prep Date: <b>9/24/2013</b>							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO <sub>3</sub> )	245	25.0	0	248.8				1.70	20	
Alkalinity, Carbonate (As CaCO <sub>3</sub> )	<12.5	25.0	0	0				0	20	
Alkalinity, Hydroxide (As CaCO <sub>3</sub> )	<12.5	25.0	0	0				0	20	
Alkalinity, Total (As CaCO <sub>3</sub> )	245	25.0	0	248.8				1.70	20	

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** TITRATOR\_130924B

Sample ID: ICV-130924	Batch ID: R68800	TestNo:	M2320 B	Units:	mg/L @ pH 4.52					
SampType: ICV	Run ID: TITRATOR_130924B	Analysis Date: 9/24/2013 11:22:00 AM		Prep Date:	9/24/2013					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	9.92	20.0	0							
Alkalinity, Carbonate (As CaCO3)	91.4	20.0	0							
Alkalinity, Hydroxide (As CaCO3)	<10.0	20.0	0							
Alkalinity, Total (As CaCO3)	101	20.0	100.0	0	101	98	102			

Sample ID: CCV-130924	Batch ID: R68800	TestNo:	M2320 B	Units:	mg/L @ pH 4.52					
SampType: CCV	Run ID: TITRATOR_130924B	Analysis Date: 9/24/2013 11:51:00 AM		Prep Date:	9/24/2013					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Alkalinity, Bicarbonate (As CaCO3)	15.8	20.0	0							
Alkalinity, Carbonate (As CaCO3)	83.8	20.0	0							
Alkalinity, Hydroxide (As CaCO3)	<10.0	20.0	0							
Alkalinity, Total (As CaCO3)	99.6	20.0	100.0	0	99.6	90	110			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** TOC\_130927A

The QC data in batch 59685 applies to the following samples: 1309209-02C, 1309209-03C

Sample ID: MB-59685	Batch ID: 59685	TestNo: M5310C	Units: mg/L							
SampType: MBLK	Run ID: TOC_130927A	Analysis Date: 9/27/2013 12:19:00 PM	Prep Date: 9/27/2013							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	<0.300	1.00								
Sample ID: LCS-59685	Batch ID: 59685	TestNo: M5310C	Units: mg/L							
SampType: LCS	Run ID: TOC_130927A	Analysis Date: 9/27/2013 12:38:00 PM	Prep Date: 9/27/2013							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	8.83	1.00	10.00	0	88.3	80	120			
Sample ID: 1309213-06AMS	Batch ID: 59685	TestNo: M5310C	Units: mg/L							
SampType: MS	Run ID: TOC_130927A	Analysis Date: 9/27/2013 5:00:00 PM	Prep Date: 9/27/2013							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	10.5	1.00	10.00	1.509	90.2	80	120			
Sample ID: 1309213-06AMSD	Batch ID: 59685	TestNo: M5310C	Units: mg/L							
SampType: MSD	Run ID: TOC_130927A	Analysis Date: 9/27/2013 5:20:00 PM	Prep Date: 9/27/2013							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	10.5	1.00	10.00	1.509	89.8	80	120	0.381	15	

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**CLIENT:** Zia Engineering & Environmental  
**Work Order:** 1309209  
**Project:** HELSTF Construction Landfill

## ANALYTICAL QC SUMMARY REPORT

**RunID:** TOC\_130927A

Sample ID: ICV-130927	Batch ID: R68868	TestNo:	M5310C	Units:	mg/L					
SampType: ICV	Run ID: TOC_130927A	Analysis Date: 9/27/2013 12:00:00 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	15.0	1.00	15.00	0	100	90	110			
Sample ID: CCV1-130923	Batch ID: R68868	TestNo:	M5310C	Units:	mg/L					
SampType: CCV	Run ID: TOC_130927A	Analysis Date: 9/27/2013 3:25:00 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	9.05	1.00	10.00	0	90.5	80	120			
Sample ID: CCV2-130927	Batch ID: R68868	TestNo:	M5310C	Units:	mg/L					
SampType: CCV	Run ID: TOC_130927A	Analysis Date: 9/27/2013 5:57:00 PM			Prep Date:					
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Organic Carbon	8.35	1.00	10.00	0	83.5	80	120			

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected between MDL and RL  
ND Not Detected at the Method Detection Limit  
RL Reporting Limit  
J Analyte detected between SDL and RL

DF Dilution Factor  
MDL Method Detection Limit  
R RPD outside accepted control limits  
S Spike Recovery outside control limits  
N Parameter not NELAC certified

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**Lab Order:** 1309209  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill

**Sequence Report****Run ID: CETAC\_HG\_131002A**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV-131002	----	SW7470A	R68945	1	10/2/2013 11:31:13 AM		A
ICB-131002	----	SW7470A	R68945	1	10/2/2013 11:33:17 AM		A
MB-59702	----	SW7470A	59702	1	10/2/2013 11:35:18 AM	9/30/2013 10:01:27 AM	A
LCS-59702	----	SW7470A	59702	1	10/2/2013 11:39:23 AM	9/30/2013 10:01:27 AM	A
LCSD-59702	----	SW7470A	59702	1	10/2/2013 11:41:25 AM	9/30/2013 10:01:27 AM	A
1309204-09D SD	----	SW7470A	59702	5	10/2/2013 11:49:34 AM	9/30/2013 10:01:27 AM	A
1309204-09D PDS	----	SW7470A	59702	1	10/2/2013 11:51:37 AM	9/30/2013 10:01:27 AM	A
1309204-09D MS	----	SW7470A	59702	1	10/2/2013 11:53:40 AM	9/30/2013 10:01:27 AM	A
CCV1-131002	----	SW7470A	R68945	1	10/2/2013 11:55:45 AM		A
CCB1-131002	----	SW7470A	R68945	1	10/2/2013 11:57:49 AM		A
1309204-09D MSD	----	SW7470A	59702	1	10/2/2013 11:59:51 AM	9/30/2013 10:01:27 AM	A
CCV2-131002	----	SW7470A	R68945	1	10/2/2013 12:21:16 PM		A
CCB2-131002	----	SW7470A	R68945	1	10/2/2013 12:23:29 PM		A
1309204-09E MS	----	SW7470A	59702	1	10/2/2013 12:42:14 PM	9/30/2013 10:01:27 AM	A
1309204-09E MSD	----	SW7470A	59702	1	10/2/2013 12:44:18 PM	9/30/2013 10:01:27 AM	A
1309209-02D	HLSF-3839-RB-001-0913	SW7470A	59702	1	10/2/2013 12:46:21 PM	9/30/2013 10:01:27 AM	E
1309209-02E	HLSF-3839-RB-001-0913	SW7470A	59702	1	10/2/2013 12:49:27 PM	9/30/2013 10:01:27 AM	E
1309209-03D	HLSF-3839-HMW-008-0913	SW7470A	59702	1	10/2/2013 12:53:21 PM	9/30/2013 10:01:27 AM	A
1309209-03E	HLSF-3839-HMW-008-0913	SW7470A	59702	1	10/2/2013 12:58:11 PM	9/30/2013 10:01:27 AM	A
CCV3-131002	----	SW7470A	R68945	1	10/2/2013 2:19:00 PM		A
CCB3-131002	----	SW7470A	R68945	1	10/2/2013 2:21:20 PM		A

**Run ID: GC15\_130925A**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICB-MECL2#7385	----	M8015D	R68808	1	9/25/2013 9:57:43 AM		A
ICV-130925	----	M8015D	R68808	1	9/25/2013 10:06:12 AM		A
LCS-59624	----	M8015D	59624	1	9/25/2013 10:18:42 AM	9/24/2013 12:50:57 PM	A
MB-59624	----	M8015D	59624	1	9/25/2013 10:35:40 AM	9/24/2013 12:50:57 PM	A
1309204-09HMS	----	M8015D	59624	1	9/25/2013 11:26:31 AM	9/24/2013 12:50:57 PM	A
1309204-09HMSD	----	M8015D	59624	1	9/25/2013 11:34:59 AM	9/24/2013 12:50:57 PM	A
1309209-02H	HLSF-3839-RB-001-0913	M8015D	59624	1	9/25/2013 11:51:54 AM	9/24/2013 12:50:57 PM	E
1309209-03H	HLSF-3839-HMW-008-0913	M8015D	59624	1	9/25/2013 12:00:21 PM	9/24/2013 12:50:57 PM	A
CCV1-130925	----	M8015D	R68808	1	9/25/2013 12:20:53 PM		A

**Lab Order:** 1309209  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill

**Sequence Report****Run ID: GC4\_131003A**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV-131003	-----	M8015V	R68960	1	10/3/2013 9:52:27 AM		A
LCS-59763	-----	M8015V	59763	1	10/3/2013 10:24:53 AM	10/3/2013 9:55:00 AM	A
MB-59763	-----	M8015V	59763	1	10/3/2013 11:06:25 AM	10/3/2013 9:55:00 AM	A
1309209-03B	HLSF-3839-HMW-008-0913	M8015V	59763	1	10/3/2013 1:17:14 PM	10/3/2013 9:55:00 AM	A
1309209-02B	HLSF-3839-RB-001-0913	M8015V	59763	1	10/3/2013 1:37:06 PM	10/3/2013 9:55:00 AM	E
CCV1-131003	-----	M8015V	R68960	1	10/3/2013 2:36:46 PM		A
1309209-03BMS	HLSF-3839-HMW-008-0913MS	M8015V	59763	1	10/3/2013 3:24:14 PM	10/3/2013 9:55:00 AM	A
1309209-03BMSD	HLSF-3839-HMW-008-	M8015V	59763	1	10/3/2013 3:44:01 PM	10/3/2013 9:55:00 AM	A
CCV2-131003	-----	M8015V	R68960	1	10/3/2013 4:03:55 PM		A

**Run ID: GCMS5\_130927A**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV-130927	-----	SW8260C	R68859	1	9/27/2013 10:03:00 AM		A
LCS-59688	-----	SW8260C	59688	1	9/27/2013 10:27:00 AM	9/27/2013 10:01:55 AM	A
LCSD-59688	-----	SW8260C	59688	1	9/27/2013 10:52:00 AM	9/27/2013 10:01:55 AM	A
MB-59688	-----	SW8260C	59688	1	9/27/2013 11:40:00 AM	9/27/2013 10:01:55 AM	A
1309209-01A	HLSF-3839-RB-001-0913-TB	SW8260C	59688	1	9/27/2013 12:04:00 PM	9/27/2013 10:01:55 AM	T
1309209-02A	HLSF-3839-RB-001-0913	SW8260C	59688	1	9/27/2013 12:28:00 PM	9/27/2013 10:01:55 AM	E
1309209-03A	HLSF-3839-HMW-008-0913	SW8260C	59688	1	9/27/2013 12:52:00 PM	9/27/2013 10:01:55 AM	A

**Run ID: GCMS9\_131008B**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
DFTPP2-131008	-----	SW8270D	R69078	1	10/8/2013 4:35:00 PM		A
ICV2-131008	-----	SW8270D	R69078	1	10/8/2013 4:56:00 PM		A
ICV-131008 APP9	-----	SW8270D	R69078	1	10/8/2013 8:42:00 PM		A
LCS-59628	-----	SW8270D	59628	1	10/8/2013 10:38:00 PM	9/25/2013 8:25:20 AM	A
	-----	SW8270D	59628	1	10/8/2013 10:38:00 PM	9/25/2013 8:25:20 AM	A
1309204-09GMS	-----	SW8270D	59628	1	10/8/2013 11:02:00 PM	9/25/2013 8:25:20 AM	A
	-----	SW8270D	59628	1	10/8/2013 11:02:00 PM	9/25/2013 8:25:20 AM	A
1309204-09GMSD	-----	SW8270D	59628	1	10/8/2013 11:25:00 PM	9/25/2013 8:25:20 AM	A
	-----	SW8270D	59628	1	10/8/2013 11:25:00 PM	9/25/2013 8:25:20 AM	A
MB-59628	-----	SW8270D	59628	1	10/9/2013 12:12:00 AM	9/25/2013 8:25:20 AM	A
	-----	SW8270D	59628	1	10/9/2013 12:12:00 AM	9/25/2013 8:25:20 AM	A
1309209-02G	HLSF-3839-RB-001-0913	SW8270D	59628	1	10/9/2013 2:31:00 AM	9/25/2013 8:25:20 AM	E
	HLSF-3839-RB-001-0913	SW8270D	59628	1	10/9/2013 2:31:00 AM	9/25/2013 8:25:20 AM	E
1309209-03G	HLSF-3839-HMW-008-0913	SW8270D	59628	1	10/9/2013 2:55:00 AM	9/25/2013 8:25:20 AM	A
	HLSF-3839-HMW-008-0913	SW8270D	59628	1	10/9/2013 2:55:00 AM	9/25/2013 8:25:20 AM	A

**Lab Order:** 1309209  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill

**Sequence Report****Run ID: IC2\_130924A**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV-130924	-----	E300	R68791	1	9/24/2013 8:47:32 AM		A
LCS-59619	-----	E300	59619	1	9/24/2013 9:03:48 AM	9/24/2013 8:45:00 AM	A
LCSD-59619	-----	E300	59619	1	9/24/2013 9:18:22 AM	9/24/2013 8:45:00 AM	A
MB-59619	-----	E300	59619	1	9/24/2013 9:47:31 AM	9/24/2013 8:45:00 AM	A
1309209-02F	HLSF-3839-RB-001-0913	E300	59619	1	9/24/2013 10:32:02 AM	9/24/2013 10:20:00 AM	E
1309209-03F	HLSF-3839-HMW-008-0913	E300	59619	100	9/24/2013 10:46:36 AM	9/24/2013 10:20:00 AM	A
1309209-03F DUP	HLSF-3839-HMW-008-0913PD9	E300	59619	100	9/24/2013 11:02:20 AM	9/24/2013 10:20:00 AM	A
1309209-03F MS	HLSF-3839-HMW-008-0913MS	E300	59619	100	9/24/2013 11:16:55 AM	9/24/2013 10:20:00 AM	A
1309209-03F MSD	HLSF-3839-HMW-008-	E300	59619	100	9/24/2013 11:31:29 AM	9/24/2013 10:20:00 AM	A
CCV1-130924	-----	E300	R68791	1	9/24/2013 12:31:10 PM		A

**Lab Order:** 1309209  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill

**Sequence Report****Run ID: ICP-MS2\_131002B**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
BLANK STD 1	-----	SW6020A	R68937	1	10/2/2013 10:34:00 AM		A
1 & 20ppb std 2	-----	SW6020A	R68937	1	10/2/2013 10:40:00 AM		A
10 & 200ppb std 3	-----	SW6020A	R68937	1	10/2/2013 10:46:00 AM		A
50 & 1000 std 4	-----	SW6020A	R68937	1	10/2/2013 10:52:00 AM		A
100 & 2000 std 5	-----	SW6020A	R68937	1	10/2/2013 10:58:00 AM		A
250 & 5000ppb std 6	-----	SW6020A	R68937	1	10/2/2013 11:04:00 AM		A
500 & 10000ppb std	-----	SW6020A	R68937	1	10/2/2013 11:09:00 AM		A
2000 ppb std 8	-----	SW6020A	R68937	1	10/2/2013 11:15:00 AM		A
ICSA-131002	-----	SW6020A	R68937	1	10/2/2013 11:32:00 AM		A
ICSAB-131002	-----	SW6020A	R68937	1	10/2/2013 11:38:00 AM		A
ICV1-131002	-----	SW6020A	R68937	1	10/2/2013 12:06:00 PM		A
ILCVL-131002	-----	SW6020A	R68937	1	10/2/2013 12:18:00 PM		A
ICB1-131002	-----	SW6020A	R68937	1	10/2/2013 12:25:00 PM		A
1309209-02D	HLSF-3839-RB-001-0913	SW6020A	59647	1	10/2/2013 12:49:00 PM	9/26/2013 8:32:55 AM	E
1309204-09D SD	-----	SW6020A	59647	500	10/2/2013 1:01:00 PM	9/26/2013 8:32:55 AM	A
1309209-03D	HLSF-3839-HMW-008-0913	SW6020A	59647	500	10/2/2013 1:30:00 PM	9/26/2013 8:32:55 AM	A
1309204-09D PDS	-----	SW6020A	59647	100	10/2/2013 1:36:00 PM	9/26/2013 8:32:55 AM	A
CCV1-131002	-----	SW6020A	R68937	1	10/2/2013 1:42:00 PM		A
LCVL1-131002	-----	SW6020A	R68937	1	10/2/2013 1:54:00 PM		A
CCB1-131002	-----	SW6020A	R68937	1	10/2/2013 2:00:00 PM		A
CCV4-131002	-----	SW6020A	R68937	1	10/2/2013 8:24:00 PM		A
LCVL4-131002	-----	SW6020A	R68937	1	10/2/2013 8:59:00 PM		A
CCB4-131002	-----	SW6020A	R68937	1	10/2/2013 9:11:00 PM		A
1309209-02E	HLSF-3839-RB-001-0913	SW6020A	59692	1	10/2/2013 9:23:00 PM	9/27/2013 2:08:20 PM	E
1309204-09E SD	-----	SW6020A	59692	500	10/2/2013 9:53:00 PM	9/27/2013 2:08:20 PM	A
1309209-03E	HLSF-3839-HMW-008-0913	SW6020A	59692	500	10/2/2013 10:23:00 PM	9/27/2013 2:08:20 PM	A
1309204-09E PDS	-----	SW6020A	59692	100	10/2/2013 10:29:00 PM	9/27/2013 2:08:20 PM	A
CCV5-131002	-----	SW6020A	R68937	1	10/2/2013 10:46:00 PM		A
LCVL5-131002	-----	SW6020A	R68937	1	10/2/2013 11:21:00 PM		A
CCB5-131002	-----	SW6020A	R68937	1	10/2/2013 11:33:00 PM		A

**Lab Order:** 1309209  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill

**Sequence Report****Run ID: ICP-MS3\_130926B**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
BLANK STD 1	-----	SW6020A	R68870	1	9/26/2013 12:43:00 PM		A
1/20 ppb STD.	-----	SW6020A	R68870	1	9/26/2013 12:49:00 PM		A
10/200 ppb STD.	-----	SW6020A	R68870	1	9/26/2013 12:55:00 PM		A
50/1000 ppb STD.	-----	SW6020A	R68870	1	9/26/2013 1:14:00 PM		A
100/2000 ppb STD.	-----	SW6020A	R68870	1	9/26/2013 1:20:00 PM		A
250/5000 ppb STD.	-----	SW6020A	R68870	1	9/26/2013 1:26:00 PM		A
500/10000 ppb STD.	-----	SW6020A	R68870	1	9/26/2013 1:32:00 PM		A
2000/25000 ppb ST	-----	SW6020A	R68870	1	9/26/2013 1:38:00 PM		A
ICSA-130926	-----	SW6020A	R68870	1	9/26/2013 1:55:00 PM		A
ICSAB-130926	-----	SW6020A	R68870	1	9/26/2013 2:01:00 PM		A
ICV1-130926	-----	SW6020A	R68870	1	9/26/2013 2:19:00 PM		A
ILCVL-130926	-----	SW6020A	R68870	1	9/26/2013 2:38:00 PM		A
ICB1-130926	-----	SW6020A	R68870	1	9/26/2013 2:44:00 PM		A
CCV1-130926	-----	SW6020A	R68870	1	9/26/2013 4:32:00 PM		A
LCVL1-130926	-----	SW6020A	R68870	1	9/26/2013 4:56:00 PM		A
CCB1-130926	-----	SW6020A	R68870	1	9/26/2013 5:09:00 PM		A
MB-59647	-----	SW6020A	59647	1	9/26/2013 5:21:00 PM	9/26/2013 8:32:55 AM	A
LCS-59647	-----	SW6020A	59647	1	9/26/2013 5:27:00 PM	9/26/2013 8:32:55 AM	A
LCSD-59647	-----	SW6020A	59647	1	9/26/2013 5:33:00 PM	9/26/2013 8:32:55 AM	A
1309204-09D SD	-----	SW6020A	59647	5	9/26/2013 5:51:00 PM	9/26/2013 8:32:55 AM	A
1309209-02D	HLSF-3839-RB-001-0913	SW6020A	59647	1	9/26/2013 6:21:00 PM	9/26/2013 8:32:55 AM	E
1309209-03D	HLSF-3839-HMW-008-0913	SW6020A	59647	1	9/26/2013 6:27:00 PM	9/26/2013 8:32:55 AM	A
1309204-09D PDS	-----	SW6020A	59647	1	9/26/2013 6:33:00 PM	9/26/2013 8:32:55 AM	A
1309204-09D MS	-----	SW6020A	59647	1	9/26/2013 6:39:00 PM	9/26/2013 8:32:55 AM	A
1309204-09D MSD	-----	SW6020A	59647	1	9/26/2013 6:44:00 PM	9/26/2013 8:32:55 AM	A
CCV2-130926	-----	SW6020A	R68870	1	9/26/2013 7:02:00 PM		A
LCVL2-130926	-----	SW6020A	R68870	1	9/26/2013 7:21:00 PM		A
CCB2-130926	-----	SW6020A	R68870	1	9/26/2013 7:39:00 PM		A

**Lab Order:** 1309209  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill

**Sequence Report****Run ID: ICP-MS3\_131002B**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
BLANK STD 1	-----	SW6020A	R68940	1	10/2/2013 12:22:00 PM		A
1/20 ppb STD.	-----	SW6020A	R68940	1	10/2/2013 12:28:00 PM		A
10/200 ppb STD.	-----	SW6020A	R68940	1	10/2/2013 12:34:00 PM		A
50/1000 ppb STD.	-----	SW6020A	R68940	1	10/2/2013 12:40:00 PM		A
100/2000 ppb STD.	-----	SW6020A	R68940	1	10/2/2013 12:46:00 PM		A
250/5000 ppb STD.	-----	SW6020A	R68940	1	10/2/2013 12:52:00 PM		A
500/10000 ppb STD.	-----	SW6020A	R68940	1	10/2/2013 12:58:00 PM		A
2000/25000 ppb ST	-----	SW6020A	R68940	1	10/2/2013 1:04:00 PM		A
ICSA-131002	-----	SW6020A	R68940	1	10/2/2013 1:22:00 PM		A
ICSAB-131002	-----	SW6020A	R68940	1	10/2/2013 1:28:00 PM		A
ICV1-131002	-----	SW6020A	R68940	1	10/2/2013 2:10:00 PM		A
ILCVL-131002	-----	SW6020A	R68940	1	10/2/2013 2:29:00 PM		A
ICB1-131002	-----	SW6020A	R68940	1	10/2/2013 2:35:00 PM		A
CCV2-131002	-----	SW6020A	R68940	1	10/2/2013 6:47:00 PM		A
LCVL2-131002	-----	SW6020A	R68940	1	10/2/2013 7:35:00 PM		A
CCB2-131002	-----	SW6020A	R68940	1	10/2/2013 7:48:00 PM		A
MB-59692	-----	SW6020A	59692	1	10/2/2013 7:54:00 PM	9/27/2013 2:08:20 PM	A
LCS-59692	-----	SW6020A	59692	1	10/2/2013 8:00:00 PM	9/27/2013 2:08:20 PM	A
LCSD-59692	-----	SW6020A	59692	1	10/2/2013 8:06:00 PM	9/27/2013 2:08:20 PM	A
1309204-09E SD	-----	SW6020A	59692	5	10/2/2013 8:24:00 PM	9/27/2013 2:08:20 PM	A
1309209-02E	HLSF-3839-RB-001-0913	SW6020A	59692	1	10/2/2013 8:54:00 PM	9/27/2013 2:08:20 PM	E
1309209-03E	HLSF-3839-HMW-008-0913	SW6020A	59692	1	10/2/2013 9:00:00 PM	9/27/2013 2:08:20 PM	A
1309204-09E PDS	-----	SW6020A	59692	1	10/2/2013 9:06:00 PM	9/27/2013 2:08:20 PM	A
1309204-09E MS	-----	SW6020A	59692	1	10/2/2013 9:12:00 PM	9/27/2013 2:08:20 PM	A
1309204-09E MSD	-----	SW6020A	59692	1	10/2/2013 9:18:00 PM	9/27/2013 2:08:20 PM	A
CCV3-131002	-----	SW6020A	R68940	1	10/2/2013 10:12:00 PM		A
LCVL3-131002	-----	SW6020A	R68940	1	10/2/2013 10:48:00 PM		A
CCB3-131002	-----	SW6020A	R68940	1	10/2/2013 11:13:00 PM		A

**Run ID: TITRATOR\_130924A**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV2-130924	-----	M4500-H+ B	R68792	1	9/24/2013 10:25:00 AM	9/24/2013 10:25:00 AM	A
ICV1-130924	-----	M4500-H+ B	R68792	1	9/24/2013 10:27:00 AM	9/24/2013 10:27:00 AM	A
ICV-130924	-----	M4500-H+ B	R68792	1	9/24/2013 10:28:00 AM	9/24/2013 10:28:00 AM	A
1309209-02F	HLSF-3839-RB-001-0913	M4500-H+ B	59622	1	9/24/2013 10:31:00 AM	9/24/2013 10:20:00 AM	E
1309209-03F	HLSF-3839-HMW-008-0913	M4500-H+ B	59622	1	9/24/2013 10:33:00 AM	9/24/2013 10:20:00 AM	A
1309209-03F DUP	HLSF-3839-HMW-008-0913PD9	M4500-H+ B	59622	1	9/24/2013 10:35:00 AM	9/24/2013 10:20:00 AM	A
CCV-130924	-----	M4500-H+ B	R68792	1	9/24/2013 10:36:00 AM	9/24/2013 10:36:00 AM	A

**Lab Order:** 1309209  
**Client:** Zia Engineering & Environmental  
**Project:** HELSTF Construction Landfill

**Sequence Report****Run ID: TITRATOR\_130924B**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV-130924	-----	M2320 B	R68800	1	9/24/2013 11:22:00 AM	9/24/2013 11:22:00 AM	A
LCS-59623	-----	M2320 B	59623	1	9/24/2013 11:27:00 AM	9/24/2013 11:11:08 AM	A
MBLK-59623	-----	M2320 B	59623	1	9/24/2013 11:29:00 AM	9/24/2013 11:29:00 AM	A
1309209-02F	HLSF-3839-RB-001-0913	M2320 B	59623	1	9/24/2013 11:31:00 AM	9/24/2013 11:11:08 AM	E
1309209-03F	HLSF-3839-HMW-008-0913	M2320 B	59623	1	9/24/2013 11:38:00 AM	9/24/2013 11:11:08 AM	A
1309209-03F DUP	HLSF-3839-HMW-008-0913PD9	M2320 B	59623	1	9/24/2013 11:45:00 AM	9/24/2013 11:11:08 AM	A
CCV-130924	-----	M2320 B	R68800	1	9/24/2013 11:51:00 AM	9/24/2013 11:51:00 AM	A

**Run ID: TOC\_130927A**

Sample ID	Client Sample ID	Test Number	Batch ID	Dilution	Analysis Date	Prep Date	Matrix
ICV-130927	-----	M5310C	R68868	1	9/27/2013 12:00:00 PM		A
MB-59685	-----	M5310C	59685	1	9/27/2013 12:19:00 PM	9/27/2013 9:00:44 AM	A
LCS-59685	-----	M5310C	59685	1	9/27/2013 12:38:00 PM	9/27/2013 9:00:44 AM	A
CCV1-130923	-----	M5310C	R68868	1	9/27/2013 3:25:00 PM		A
1309209-02C	HLSF-3839-RB-001-0913	M5310C	59685	1	9/27/2013 4:02:00 PM	9/27/2013 9:00:44 AM	E
1309209-03C	HLSF-3839-HMW-008-0913	M5310C	59685	1	9/27/2013 4:22:00 PM	9/27/2013 9:00:44 AM	A
1309213-06AMS	-----	M5310C	59685	1	9/27/2013 5:00:00 PM	9/27/2013 9:00:44 AM	A
1309213-06AMSD	-----	M5310C	59685	1	9/27/2013 5:20:00 PM	9/27/2013 9:00:44 AM	A
CCV2-130927	-----	M5310C	R68868	1	9/27/2013 5:57:00 PM		A

## Manual Integrations Tracking Form - DoD QSM 4.2 Requirement

Instrument ID: GCMS#9Data Folder: GCMS9\_131007A

<u>Sample ID</u>	<u>Analyte #1</u>	<u>Analyte #2</u>	<u>Analyte #3</u>	<u>Analyte #4</u>
	Identification & Reason	Identification & Reason	Identification & Reason	Identification & Reason
CAL1 0.04 PPM	2,6-DINITROTOLUENE – MISSED PEAK.			
CAL2 0.10 PPM	2,6-DINITROTOLUENE – MISSED PEAK.			
CAL4 1.0 PPM	BENZOIC ACID – INTEGRATED HALF OF PEAK			
CAL5 2.0 PPM	BENZOIC ACID – INTEGRATED HALF OF PEAK			
SSCV	Benzoic Acid Intergrated half of peak			

\*Manually Integrated = MI

Karyn Lane

10-8-13

Date

J. D. Smith2<sup>nd</sup> Level Review

Date

MI\_GCMS\_9&amp;4

Manual Integrations Tracking Form - DoD QSM 4.2 Requirement

**Instrument ID: GCMS#9**

**Data Folder: GCMS9\_131008B**

<b><u>Sample ID</u></b>	<b><u>Analyte #1</u></b>	<b><u>Analyte #2</u></b>	<b><u>Analyte #3</u></b>	<b><u>Analyte #4</u></b>
	Identification & Reason	Identification & Reason	Identification & Reason	Identification & Reason
<b>ICV2-131008</b>	BENZOIC ACID- DID NOT INTEGRATE ENTIRE PEAK			

\*Manually Integrated = MI

*Angie O'Donnell*

10/10/13

*Karyn Lane*

10-9-13

Analyst

Date

2<sup>nd</sup> Level Review

Date

MI\_GCMS\_9&4